

THE DEVELOPMENT OF TECHNIQUES FOR TEACHING THE VARIOUS USES  
OF THE PEDALS OF THE CONTEMPORARY GRAND PIANO

BY

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By

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The teaching of piano pedaling is one of the most neglected and misunderstood areas in piano pedagogy. Despite its recognized importance, few systematic studies exist in this area, and, until recently, no comprehensive source of pedaling techniques had been published.

The purpose of the present study was the systematic development and validation of pedagogical procedures for teaching students the correct use of the three pedals of the contemporary grand piano. Secondary related purposes included (1) the development of preliminary exercises to foster prerequisite skills; (2) the classification of pedaling techniques according to related skills; and (3) the formulation of a pedagogical sequence for introducing pedaling techniques in a logical, systematic order.

After identifying the various pedaling techniques, a series of pedagogical procedures was developed for the teaching of each technique. Twenty-one teaching units were formulated that collectively comprise a comprehensive and systematic program of study of the three pedals. The first twenty units follow a logical format that includes (1) a description of the technique; (2) application; (3) teaching procedures; (4) examples; and (5) appropriate exercises. In the final unit, the techniques are grouped into categories and presented in an instructional sequence.

Most of the pedagogical procedures described in the teaching units have seldom been subjected to research analysis. Therefore, both extensive and intensive validation measures were employed to determine the appropriateness of the materials. The validation process solicited the opinions from a sample of nationally certified teachers of piano and piano pedagogy of the Music Teachers National Association, and analyzed the teaching of the units in actual piano lessons.

Conclusions regarding the main thrust of the study were drawn in terms of three criteria. Materials and concepts presented within the study were found to be (1) systematic, (2) thorough, and (3) appropriate for piano teachers who might use them.

At each stage of the study the apparent need for this type of research was reinforced. Results of both aspects of the validation process were overwhelmingly positive. The high consistency of the ratings gave further evidence that the concepts and techniques presented within this study are pedagogically sound.

## CHAPTER 1 INTRODUCTION

Fine piano playing is impossible without the correct use of the three pedals. Just as finger technique should be analyzed methodically and mastered during the student's course of study, the use of the pedals should receive similar attention. Therefore, a systematic investigation of pedaling techniques and how best to teach them is warranted and needed.

Pedaling is a complex subject. Numerous techniques exist for the use of each pedal, and different applications can be made within each technique. In order to obtain the best instructional results, teachers should follow a pedagogical sequence for introducing each pedaling technique that presents the various concepts in a logical, systematic manner. In addition, they need to know what preliminary exercises should be included to enable students to know what they are doing with the pedal before it is introduced into any piece of music. Teachers who are knowledgeable about pedaling techniques are much more likely to teach them effectively.

### Lack of Knowledge About Pedaling

Despite its recognized importance, many piano teachers ignore the teaching of musical and artistic pedaling (Bano-wetz, 1985). It is a much neglected and misunderstood area of piano teaching, as well as one of the more controver-sial. Compared to the other aspects of piano playing, the teaching of the correct use of the pedals is still in a disorganized state (Gebhard, 1963; Bernstein, 1981). While the exact percentage has not been documented, many piano teachers either do not adequately understand the concepts of pedaling or do not realize the numerous types of pedal-ing that can be used. It appears that they were never taught more than the basic mechanical actions of the damper pedal: (1) pushing it down and letting it up and (2) pedal-ing to connect notes.

Other teachers lack sufficient knowledge of how to teach more than basic pedaling techniques, especially those for which there are no notated symbols. This lack of a-wareness, in turn, affects what is taught their students. Consequently, many students avoid pedaling or pedal largely by instinct, which usually results in inconsistent and un-stylistic playing (Bernstein, 1981). To the extent that the student is not taught to use the pedals skillfully, the quality of that student's musical understanding and per-formance is diminished.

Several reasons exist for this present situation. First of all, very little research has been conducted on pedaling (Banowetz, 1985; Gebhard, 1963; Wolfram, 1965). In addition, until recently no single comprehensive source of piano pedaling techniques had been published. Except for a few books or articles on this subject, when pedaling is discussed, it is often in a fragmentary manner. This situation leaves piano teachers with little to draw on other than their own personal experience, because they have no research findings or systematic studies with which to compare the strengths and weaknesses of a particular pedagogical approach to a pedaling technique.

Another reason for the lack of a generally accepted standard is that pedaling is a highly individual matter, relying heavily on the musicianship of the particular performer. A rigid, unvarying concept of pedaling is not desirable, because the choice of pedaling is affected by a wide variety of factors.

Many pianists fail to listen carefully to the musical effects of their pedaling, not only because of a lack of attention, but also because they use the pedals to mask a number of technical inaccuracies. This lack of aural attention is unfortunate, because pianists must rely on aural perception to compensate for the varying conditions of performance such as the particular instrument being played, the acoustics of the hall, additional performers in



the group, and mistakes in performance which may occur, as well as the performer's choice of tempos, touch, dynamics, and balance of textures. Each of these conditions requires a response that is unique to the immediate situation.

### Need for Knowledge of Pedaling

When Anton Rubinstein referred to pedaling as the "soul of piano playing," he expressed a regard for the pedals that is recognized by every outstanding pianist (Bernstein, 1981, p. 143). Appropriate pedaling is an art that conveys not only a thorough grasp of the composer's intent, but also the artistic intelligence of the performer. As Chopin once stated: "The correct way of using the pedal remains a study for life" (Banowetz, 1985, p. 179).

A thorough understanding and mastery of the use of each of the three pedals is essential for anyone who seeks to play at a high artistic level. Unfortunately, aside from the confusion surrounding the many functions of the damper pedal, both the una corda and sostenuto pedals are frequently misused or misunderstood. The una corda pedal is sometimes employed as a crutch when finger technique alone could be more effective, and the sostenuto pedal is often ignored completely.

In interviews with a cross-section of twelve concert pianists, Noyle (1987) cites artistic concerns that express the gamut of piano practice and performance. Several

artists made references to pedaling, including Misha Dichter, who stated

In my various experiences from teaching master classes around the country, if I can cite the one single failing with teaching in this country, it's that the pedal is really short-changed in the teaching. It seems almost to be an appendage that is just added after the student has learned the piece. (Noyle, 1987, p. 51)

While performance situations cannot be duplicated exactly in the studio, proper training can cultivate an awareness that will lead to enhanced and improved pedal techniques. Spontaneous reactions involving the pedal can even be valuable during a performance, because many pianists tend to rely heavily on the pedal when they believe they are in difficulty. Yet, as Lhevinne (1972, p. 47) indicates, "The best pedal effects in artistic playing are those in which the audience does not realize that there is a pedal at all." Pedaling techniques improperly applied without musical awareness only compound or perpetrate errors. Ultimately, each pianist must let his or her musical sensibilities be the final guide.

#### Purpose of the Study

The primary purpose of the study was the systematic development and validation of pedagogical procedures for teaching students the correct use of the three pedals on the contemporary grand piano.

As has been pointed out on the preceding pages, the knowledge and the use of the pedals and the pedagogical

practices for teaching this facet of piano playing lag far behind other aspects of piano playing and instruction. This study sought to deal with this situation in two phases. One was to compile and synthesize the available knowledge about the many techniques for the use of the three pedals. The extant writings and research are presented in Chapter 2. The procedures that were developed, which are presented in unit form in Chapter 3, consist of more than just a compilation of other writings. The researcher also drew on many years of dealing with the topic as a teacher and professor of piano, as well as systematic analysis, to expand on and organize the various pedaling techniques.

The second purpose of the study was to develop pedagogical procedures for the teaching of pedaling. Interestingly, less research and writings are available on the pedagogical aspects than on the nature of the techniques. Therefore, a significant amount of the pedagogical procedures presented in Chapter 3 is the result of systematic analysis and application of principles and ideas.

Because many of the pedagogical procedures in that chapter have seldom been available for consideration, some validation of them was desirable. To accomplish this, both intensive and extensive procedures were utilized. The intensive portion of the validation process consisted of the tape recording of the procedures being taught by

several piano teachers certified as "Master Teachers" by the Music Teachers National Association. These tapes were then analyzed by the researcher along with a panel of three certified piano teachers to verify that the students did in fact learn the particular pedaling technique. The extensive portion of the validation process consisted of questionnaires sent to forty-two certified "Master Teachers" asking for their opinions and suggestions about the units on pedaling. These validation efforts are described in detail in Chapter 4.

This study also had some secondary purposes related to the development of the units. These secondary purposes include

- (1) the development of preliminary exercises to foster prerequisite skills prior to teaching pedaling techniques;
- (2) the classification of pedaling techniques according to related skills that are employed in executing each technique; and
- (3) the formulation of a pedagogical sequence for introducing piano pedaling techniques in a logical, systematic order.

#### Development of the Pedals

A knowledge of the development of each of the pedals provides the performer with insight into performance prac-

tices of earlier periods; such knowledge can lead to a more artistic level of performance through their appropriate use.

The historical development of the pedals is a complicated evolution that spanned more than 150 years. As the piano increased in range and size, alterations were desired to help control the volume and duration of the sound. By the mid-eighteenth century, when the length of the strings had become quite long, the excessive reverberations of the strings created objectionable dissonant notes. This led to the creation of damper activating mechanisms.

#### The Damper Pedal

Early pianos had hand stops for controlling the dampers--pieces of firm felt that prevent the strings from vibrating when sound is no longer desired. Through the use of hand stops the performer could raise the dampers in either the bass or the treble areas. This division of the damper mechanism into treble and bass groups remained a common feature of pianos until at least 1820.

Knee levers were introduced in Germany around 1765. These were less cumbersome than hand stops and allowed the pianist to maintain uninterrupted hand contact with the keyboard.

In 1777 a divided pedal was added that controlled both halves of the damper mechanism separately. Further refine-

ments resulted in a split pedal that enabled the performer to activate dampers in the treble and bass registers simultaneously by depressing both halves of the pedal at the same time. In the early nineteenth century, a short-lived divided damper mechanism known as the Kunstpédal divided the dampers into eight sections controlled by four divided pedals. Split pedals continued to be built until around 1830, when they were replaced by the single damper pedal found on today's grand pianos.

The placement of the damper mechanism underwent various changes as well. It was placed alternately above and below the strings, assuming the upper placement on most grand pianos by the end of the nineteenth century. This position utilizes gravity to help achieve rapid dampening.

### The Pedal Piano

An independent pedal board was added to the piano to create the pedal piano. A second set of strings was originally required to activate the mechanism, but in 1815 a self-contained pedal board was developed. The pedal board provided a means of expanding the compass of the bass notes by enabling the pianist to double notes that were played by the fingers or to sustain bass notes indefinitely. Although the pedal piano is no longer extant, several composers wrote compositions for this instrument, including Schumann, Alkan, and Gounod.

### The Una Corda Pedal

Two basic methods for reducing the dynamic level were employed on various pianos of the early nineteenth century. The oldest, the pianozug or feu celeste, was a "celeste stop" that was first operated by hand and then later activated by the foot. It consisted of a thin strip of felt or leather that came between the hammers and the strings to produce a special soft effect.

The second pedal mechanism, known as the Verschiebung, was introduced in 1726 by Cristofori and closely resembled the una corda pedal in use today. When the Verschiebung was depressed, the entire hammer mechanism shifted to the right so that the hammers struck from one to three strings per note, depending upon the depth to which the pedal was depressed. This enabled pianists of the late eighteenth and early nineteenth centuries to shift from the three string (tre corde) position, to two strings (due corde), and then to only one string (una corda). Many composers, notably Beethoven, made use of this selective degree of shifting, which is no longer possible on contemporary grand pianos.

### The Sostenuto Pedal

The sostenuto pedal is related to several earlier damper activating mechanisms that allowed the pianist to selectively sustain tones. It is the most recent of the

three pedals to be added to the piano. Although the first true sostenuto mechanism appeared in 1844, it was not until it was patented in 1874 by the American piano firm Steinway and Sons that the sostenuto pedal began to attract attention. The sostenuto pedal sustains notes that are played and held before it is activated.

The sostenuto pedal is not standard equipment on every piano; many are built without it. European piano manufacturers have been reluctant to incorporate the sostenuto pedal, and many of them include it only on nine-foot grand pianos. Even American grands that are not built for concert or professional use generally do not have a sostenuto pedal. Some pianos have a "fake" sostenuto mechanism that operates unselectively on all the dampers below middle "C." This action duplicates the function of the damper pedal for the lower portion of the keyboard, but it makes selective sustaining of notes impossible. Frequently pianos are found to have a malfunctioning sostenuto pedal or one that is improperly regulated, and therefore it does not function in the capacity of a true sostenuto pedal. Most upright pianos omit this pedal entirely.

#### Additional Pedals

Numerous short-lived, bizarre pedal devices for modifying the sound of the piano were developed and eventually discarded. In the early nineteenth century pianos had as



many as six to eight pedals. Three of the best-known devices were (1) the Janizary pedal which added rattling noises and could activate a drumstick, ring bells, shake a rattle, and create the effect of a cymbal crash; (2) the "bassoon" pedal that created a buzzing noise through the use of paper and silk; and (3) a cembalo stop that modified the sound through the use of leather weights to resemble the sound of the harpsichord. Other devices included the crescendo and decrescendo pedals which raised and lowered the lid of the piano or opened and closed slots in the sides of the case, and a device that attempted to modify the tone after the hammers had struck the strings by forcing air across them.

This number of pedals provided a pianist with a considerable repertoire of "effects," perhaps of doubtful musical value. Sonorities could be weakened, strengthened, or blended together, and sounds could be produced that ranged from consonant to quite dissonant, depending upon the artistry of the performer and the quality of the particular piano.

#### Stylistic Factors in Pedaling

Pedaling cannot be taught correctly unless one is aware of historical considerations and also has an understanding of performance practices relevant to various musical styles. To achieve the correct use of the pedals,

a pianist not only must be able to use appropriate pedaling techniques, but also must possess an understanding of the composer's idiomatic treatment of the pedals. Without such understanding, a mastery of pedaling techniques in itself is of limited value.

Numerous problems exist regarding pedal markings in the score. Because a composer does not call for pedaling in the notation is no reason to assume that none should be used. Indications were not provided in the music for the knee levers or hand stops which were early means of pedaling. Until the piano reached its full development during the early part of the nineteenth century, many composers omitted pedal markings entirely. Yet it is known from various accounts of piano playing that several composers used the pedals in performances of their own compositions. Mozart, for instance, never placed pedal markings in any of his solo piano works. However, in letters to his father he described using the damper pedal freely, and mentioned how he was overjoyed at finding one that was capable of releasing the sounds completely. Haydn indicated the use of the damper pedal only twice. Neither he nor Mozart provided markings for the use of the una corda pedal.

The lack of adequate pedaling indications is not limited to any particular style of music, however. For example, the clarity of the contrapuntal lines in much eighteenth century music can be easily obscured through

incorrect pedaling. Although written primarily for harpsichord or clavichord, this music requires some pedaling when played on the piano. Many editions of Classical and Romantic piano music contain very few or quite inadequate pedal indications (Gebhard, 1963). An example of this practice can be illustrated by Liszt's brief note to his transcription of the Tannhäuser Overture in which he wrote, "Verständiger Pedalgebrauch wird vorausgesetzt" ("It is assumed that the pedal will be used with understanding"), after which there is not a single pedal indication in the music (Neuhaus, 1973, p. 159).

Likewise, relying solely on the printed page for pedaling creates significant problems for the performer in the music of Debussy and Ravel, whose scores are almost devoid of such indications, and whose requirements for the use of the pedal are made clear by means other than the traditional pedal markings. While pedaling in twentieth-century piano music is more varied, it presents fewer problems in that it is usually marked by the composer.

Whenever pedaling has not been indicated in the music of a period, both the stylistic practice of the period and the musical context should be considered in determining how and where to pedal. Every available technique should be used by the performer to convey the composer's intent, as far as it can be ascertained from the score. For example, although the sostenuto pedal is a more recent invention,

pianists should not be prejudiced against using it in music that was composed earlier. According to Bacon (1963), there is no benefit in pushing historical verisimilitude too far when the contemporary grand piano itself is so far removed from the historical. For instance, the use of the sostenuto pedal can enhance the performance of Impressionistic piano music. However, Debussy did not have a piano with a sostenuto mechanism and as far as can be determined was unaware of its existence. Ravel had composed numerous piano works before he became aware of this pedal. When introduced to it, he reportedly exclaimed, "Why didn't someone show me that such effects were possible with the sustaining pedal? How many more possibilities it would have suggested to me!" (Chasins, 1962, p. 76).

Even when pedal markings were placed by the composer in the score, it is not always possible to execute them accurately on contemporary grand pianos. The evolution of the pedals enabled pianists to produce effects at one time that can only be partially duplicated today. In addition, pedals differed greatly from one instrument to another, making it impossible to achieve much consistency. The tone of early pianos was lighter than it is today, and the ability of the instrument to sustain sounds was much less than it is on modern instruments.

Composers often marked pedaling in a careless, inconsistent, or incomplete manner. If followed exactly by

the performer, these markings could lead to confusing results. As a further complication, some editors have tried to compensate for omissions of pedal markings, which has further obscured a composer's intent. Therefore, even when presented with what appear to be authentic pedal indications, a pianist is not obligated to follow them exactly. According to Dumesnil (1958, p. 63), "printed pedal marks mean practically nothing."

In addition to functions normally associated with pedaling, some of the dynamic levels indicated in the music of Beethoven, for example, are possible only through judicious use of the pedal. Because Beethoven was one of the first composers to indicate pedaling in the music, he is sometimes referred to as the "father of pedaling." And he did create new effects by sustaining low bass notes throughout long passages and holding the damper pedal down through rapidly articulated chords. Yet, after Beethoven pedaling became even more complex.

Aside from the fact that numerous pedal markings are in use today (a problem in itself), the correct use of the pedals frequently is hindered by the layout of the music. Notes and leger lines below the bass clef sometimes get in the way of pedal markings, and when this happens the pedal is usually moved to one side or another. The full capabilities of the concert grand piano offer an infinite variety of pedalings, some of which cannot be indicated in notation.

### Delimitations

The subject of pedaling is an extensive one. Therefore, several delimitations were imposed to keep the study focused on pedagogical matters. These delimitations include the following: (1) Only standard works representative of eighteenth, nineteenth, and twentieth century composers are cited as examples. No attempt has been made to incorporate a comprehensive representation of all piano literature. (2) Non-traditional pedaling techniques and idiosyncratic uses of the pedal are not included. (3) Particular schools of pedaling are not compared or explained. (4) Manuscripts or treatises are not examined for historical relevance or authenticity. (5) A comparison of various editions of a particular composer's works is not included.

### Definitions of Terminology

Unless otherwise stated, the discussion of pedaling techniques is made in reference to the modern concert grand piano. The term pedaling will refer to the damper pedal or right pedal. The middle pedal will be referred to as the sostenuto pedal. The left pedal will be referred to as the una corda pedal. These pedals and their actions are frequently designated by a variety of terms, including the following:

Damper Pedal

English: damper pedal, loud pedal, open pedal, sustaining pedal, amplifying pedal

French: avec pédale, la pédale forte, pédale grande, gardez la pédale

German: Aushaltepedal, Das Dampferpedal, Das Dämpfungspedal, Fortezug, Grosses Pedal, mit Pedalgebrauch

Italian: col pedale, con pedale, il primo pedale, pedale, pedale del forte, sempre pedale, senza sordini, ped. simile

Release of the Damper Pedal

French: sec, sans pédale

German: kein Pedal, ohne Pedal

Italian: con sordini, senza pedale, secco, non ped.

Sostenuto Pedal

English: prolonging pedal, sostenuto pedal, Steinway pedal, sustaining pedal, S.P., tonal pedal, Ped.

French: Prolongement, Pédale de prolongation, Prol. Péd.

German: Tonhaltepedal

Italian: Il pedale tonale

Una Corda Pedal

English: soft pedal, shift pedal, muting pedal

French: une corde, sourdine, la pédale sourde, petite pédale

German: mit Verschiebung, mit einer Saite, mit Dämpfung

Italian: sordino, una corda, u.c., sul una corda, poco a poco una corda

#### Release of the Una Corda Pedal

French: 3 cordes

German: ohne Verschiebung

Italian: tre corde, poco a poco tre corde, tutte le corde, t.c., poco a poco tutte le corde, due corde

#### Use of the Una Corda and Damper Pedals Simultaneously

English: Ped. 1 and 2

French: Les deux pédales, Très enveloppé de pédales

German: Mit beiden Pedalen, Beide Pedale

Italian: con 2 Pedale, 2 ped., due Ped., con sord e Ped. 1 due pedali

In this study the terms for pedaling actions are employed as follows:

Full pedal refers to the complete retention of sound accomplished when the dampers are raised fully from the strings and the pedal descends to its maximum depth.

Partial release of the pedal refers to the partial release of the damper sound that is determined by how far above the strings the dampers are raised: (1) a 75 percent release of sound occurs when the dampers just barely touch



the strings, (2) a 50 percent release of sound occurs when the dampers rest very lightly on the strings, and (3) a 25 percent release of sound occurs when the dampers rest almost completely on the strings.

The term catching notes in the pedal is used interchangeably with holding notes in the damper pedal.

Other pedal terminology based upon a combination of full and partial pedaling techniques is defined at appropriate places in the teaching units.

The following definitions apply to the terminology used to describe various components of the teaching units:

Technique is a body of technical skills related to the use of the pedals on the piano.

Method refers to a systematic plan followed in presenting material for instruction.

Procedure is a series of steps followed in introducing the various pedaling concepts in an organized manner.

Unit refers to one constituent in a series of twenty-one teaching segments that collectively comprise a systematic, pedagogical study of the three pedals of the piano.

## CHAPTER 2

### REVIEW OF RELATED RESEARCH AND WRITINGS

In his recently published book on pedaling, Banowetz states:

Pedaling has suffered grossly from both ignorance and neglect. The bibliography . . . may give the impression that references on pedaling are plentiful, but that is somewhat misleading, for many entries are very brief or elementary in content. Only a comparative few show real depth or comprehensiveness. (Banowetz, 1985, p. ix)

Several books in English have been written that are entirely devoted to the subject of pedaling. The authors include Banowetz (1985), Bowen (1936), Carreno (1919), Ching (1930), Gebhard (1963), Riefling (1962), Schmitt (1893), Schnabel (1950), and Wolfram (1965). These books predominantly cover styles and musical considerations in pedaling rather than pedagogical issues.

Very little space has been devoted to the subject of pedaling in books on general piano playing. Pedaling, when it is discussed at all, is generally treated only in a cursory manner. Even books that contain pictures and diagrams of the keyboard to illustrate certain pedagogical problems usually omit the pedals (Lindo, 1922; Seroff, 1977).

### Research on Teaching Pedaling

After an intensive search, no sizable systematic research study of the teaching of piano pedaling was uncovered. Searches of Dissertation Abstracts, the National Union Catalogue, Eric, and RLIN produced no studies on the teaching of pedaling. The Eric search and Dissertation Abstracts Online did locate a few studies on bicycle pedaling and several on organ pedaling. One thesis on playing the piano without pedals (Castagnone, 1984) was also cited.

Ferguson (1969) presents a study of the functions, uses, and pedagogical methods of the pedals of the piano. The final chapter of this thesis contains several pedagogical exercises derived from a number of sources for introducing legato pedaling. Sheffet (1987) designed a questionnaire to conceptualize the pedaling expertise of ensemble pianists to formulate guidelines for pedaling string duos, and Harrell (1976) investigates contemporary non-traditional uses of the piano as an instrument. Examples are provided of the new notational symbols composers have developed, including those for pedaling.

Other studies are concerned primarily with historical and performance situations. In a dissertation on technical problems in piano performance, Hollis (1981) addresses the application of the damper pedal in selected piano excerpts.

Hopkins (1980) uses musical examples from Bach's keyboard Suites to demonstrate full and partial pedaling techniques in her dissertation. In a dissertation on piano tone color Brodsky (1985) mentions that the una corda pedal changes the decay properties of a tone, and thereby significantly affects the piano's tone quality.

A search was made of Music Index and Education Index to find relevant articles on the teaching of pedaling. While numerous writings have appeared on the use and function of the three pedals, many of these are no longer available either because they have gone out of print or the publications in which they appeared are no longer available. Many articles and books contain only brief references to pedaling and focus primarily on musical examples and literature or historical matters rather than pedagogical principles.

#### Writings on Teaching Pedaling

In addition to the books and articles entirely devoted to pedaling, numerous books on the subject of piano teaching were examined during the course of this study. Many contained no references to pedaling at all. Of those that did, the following examples are cited to provide insight into the depth and extent to which the teaching of pedaling was typically included.

Whiteside (1961) writes only briefly on the subject of pedaling because she feels that in addition to good editing, too much has already been written on the subject of pedaling to make a long discussion profitable in her book. She acknowledges the damper pedal in six sentences, the una corda in three, and the sostenuto pedal in one sentence.

After stating that beyond certain elementary requirements pedaling becomes merely an individual matter, Bacon (1963) completes his chapter on pedaling in four and one-half pages, covering the usage of all three pedals. Seven sentences are devoted to the sostenuto pedal and four sentences to the use of the una corda pedal. He provides basic principles of pedaling regarding the application and function of the three pedals. He states that because the piano's normal tone is with the pedal, non-pedaling should be conceived as a special color.

Newman (1956) covers pedaling in two and one-half pages, devoting five sentences to the una corda pedal and two sentences to the sostenuto pedal. He mentions three techniques for the damper pedal: syncopated pedaling, half pedaling, and pedal blurring. Newman stresses the importance of listening to what is being pedaled, and discusses pedaling in the context of style, color, and performance variables.

Multi-levels of pedaling are discussed by Neuhaus (1973) in twelve pages devoted to pedaling, including six

sentences related to the use of the una corda pedal, but nothing regarding the sostenuto pedal. According to Neuhaus, artistic pedaling is inseparable from tone; a primary use of the pedal is to remove some of the dryness from the piano's distinctive tone. Several musical examples are cited in this book.

Last (1960) devotes a twenty-one page chapter to pedaling and discusses a number of techniques for the damper pedal including: legato and staccato pedaling, a "touch" of pedal, pedaling scales, melodic and harmonic pedaling, pedaling to enhance phrasing, half pedaling, half damping, and "tremolo" pedaling. Thirteen sentences cover the una corda pedal, while four sentences describe the use of the sostenuto pedal.

Bastien (1977) discusses only the most elementary use of pedaling in his text on teaching piano and covers the basics of the damper pedal in two pages; the other pedals are not mentioned. One exercise is provided for each of the three types of pedaling that are mentioned: basic, syncopated, and rhythmic syncopated. Four books on elementary uses of the pedals are also listed. In a more recent edition of the same text, Bastien (1988) does not refer to the term "rhythmic syncopated" pedaling.

Enoch and Lyke (1977) offer two and one-half pages on pedaling, devoting three sentences to the use of the una corda pedal, while the sostenuto pedal is not mentioned. A

sequence for introducing pedaling is presented and experimentation in pedaling is encouraged.

In their book on rhythm, dynamics, and pedal, Giesecking and Leimer (1938) devote a sixteen-page chapter to the damper pedal, one paragraph to the una corda pedal, and the following sentence to the sostenuto pedal: "Many grand pianos have a third (sustenuto) [sic] pedal which serves as a prolonger of individual tones or chords" (Giesecking and Leimer, 1938, p. 64). They stress the importance of "time-treading" as opposed to "post-treading" or syncopated pedaling. Various applications of pedaling are discussed and presented along with musical examples.

In his chapter on pedaling, Kentner (1976) discusses the element of timing in regard to depressing the damper pedal either before, with, or after the notes are played. He presents a couple of techniques for the damper pedal. The chapter concludes with a brief discussion of historical considerations regarding the una corda pedal and a mention of the sostenuto pedal.

In his book on teaching, Booth (1971) discusses pedaling in relation to how, when, and for how long the pedal should be activated. He presents six pedaling exercises for the damper pedal along with musical illustrations. Other pedagogical aspects are presented as well.

A scholarly presentation on the use of the three pedals can be found in the reference book on piano teaching

by Agay (1981) in the chapter on pedaling submitted by Banowetz.

### Lack of Systematic Studies on Teaching Pedaling

From the late eighteenth century on, an enormous amount of teaching guides, materials, and methods were written for piano teachers. Every important pedagogical concept was included in detail, except knowledge of and guidance in the use of the pedals.

In the "Foreword" of his volume on pedaling, Schmitt (1893) states: "He who has talent will know how to use the pedal; he who has no talent cannot be taught to use it correctly." According to Mirovitch (1954), this statement provides an accurate account of the substance of all pedal knowledge and teaching prior to the mid-twentieth century. Although Wells (1914) believed that pedaling had developed into a fine art, "It would be no exaggeration to state that there has been no pedal teaching" (Mirovitch, 1954 p. 1).

Schnabel confirms this view on the teaching of pedaling when he states that

Little has been written, said or taught about the use of the pedal. So little, that indeed many pianists do not even realize how they use the pedal themselves. A few rules, sometimes more harmful than helpful, are known to them; the rest is guesswork, instinct, or good--or bad--luck. (Schnabel, 1950, p. 3)

Riefeling (1962, p. 1) calls the whole subject of pedaling "terra incognita," and cites a passage from the



book Music Study in Germany (1881) by the American pianist Amy Fay. After having studied with the great piano pedagogues Tausig, Kullak, and Liszt, Fay admitted to her teacher Ludwig Deppe that none of her earlier renowned teachers had taught her anything in particular about pedaling, except to warn her not to use the pedal during runs.

#### Additional Studies

Very little progress has been made in recent decades, according to Ferguson (1969), toward rectifying the lack of systematic studies on the teaching of pedaling. As Kentner states

It is remarkable that [pedaling] has been practically ignored by music teachers except for some vague, though well meant advice against "over-pedaling." Even intelligent pianists often limit their comments on the pedal to an indulgent and humorous admission that it can hide a multitude of sins. What sins we are not told. (Kentner, 1976, p. 69)

Gebhard concludes

It is strange that, with this fascinating and extensive field fairly begging for recognition, only a few fine musical scholars have written about it. The artistic and tasteful use of the pedal . . . is an intrinsic part of interpretation [and] its neglect is incomprehensible. (Gebhard, 1963, p. viii)

As Fetsch (1966) points out, most of what has appeared in print concerns the use of the damper pedal. Comparatively little has been written on the use of the una corda pedal, but its technique is less involved than the other two pedals. Even less has been written on the use of the sostenuto pedal, and most teachers and students are only

acquainted with the most basic techniques for this pedal. Fetsch believes that this creates an urgent need for detailed instruction in its use.

### Conflicting Theories

The lack of systematic studies on the teaching of piano pedaling has resulted in confusing and sometimes conflicting theories about pedaling. Historical comments that have been recorded on the subject of piano teaching in past decades provide some insight into this area. Although many examples can be cited, only a few will be given here.

Lindquist (1966) refers to two distinct schools of pedaling: one that stresses clarity at all times and the other that sacrifices clarity for color. This duality in the teaching and use of the pedals has a long and continuing history. The musicologist Riemann, for instance, became the subject of severe criticism when he stated in his Dictionary of Music (1882) that in playing the piano the dampers should not usually remain in contact with the strings. Martienssen (1930) strongly disputed this view, saying that such theories about pedaling contributed to the extraordinarily widespread lack of understanding of the subject. The famous pedagogues Matthay (1913) and Leschetizsky (Bree, 1902) both recognized this division of pianists into two categories regarding methods of pedaling: the small number of pianists who used very little pedal and

the great majority who kept the pedal depressed almost constantly. Leschetizsky, however, believed that no rules were needed for pedaling other than common sense and a good ear (Bree, 1902).

A different type of confusion surrounded the manner in which the damper pedal was depressed. For nearly eighty years after the invention of the damper pedal, rhythmic pedaling, or depressing the damper pedal simultaneously with the notes, was the exclusive recognized form of pedaling. According to Riefeling (1962), Czerny (1839) was the first composer to write fully and instructively about the use of the pedal, and this was the only form of pedaling he discussed. Syncopated pedaling, or depressing the pedal after the notes have been played, is now considered to be the most common method of pedaling. However, syncopated pedaling was not used until after 1870 by composers such as Liszt, Kullak, and Deppe, and it is mentioned in treatises on the pedal dating from 1875 by both Schmitt and Kohler.

Pre-pedaling, or depressing the pedal before playing the notes, is first mentioned in writings on the pedal dating from the early twentieth century by Breithaupt (1912), Caland (1922), and Kreutzer (1915). However, in his book The Essence of Piano Technique, which was published in 1923, Kreutzer does not mention this form of pedaling and appears to reject it (Riefeling, 1962).

In his treatise on pedaling, Frey (1939) states that rhythmic pedaling was the most commonly used form of pedaling. According to Riefeling (1962), several renowned piano teachers and writers pointed out that this was false information, and that rhythmic pedaling was on the verge of extinction as a form of recognized pedaling. Von Bulow commented on the confusing situation surrounding the entire subject of pedaling by stating that as a rule, pedaling was "the expedient people employ to annihilate good taste" (Riefeling, 1962, p. 17).

#### Faults in Teaching Pedaling

The importance of good pedaling has long been recognized, even though the teaching of pedaling has fallen short. Faults that occur in the teaching of pedaling may be either of commission or omission (Booth, 1971). According to various writings on the teaching of pedaling, the most often cited fault is the lack of teaching. Other pedagogical errors or oversights mentioned include improper attention to the position of the foot (Bernstein, 1981), introducing the use of the pedal too late, and neglect in teaching pedaling with reference to harmony (Ching, 1930).

#### Results of Poor Teaching

The most commonly cited faults of students in employing the pedal include failing to change the pedal

frequently enough, too rapid or incomplete pedal releases that create blurring, pedaling through phrasing and articulation markings, too frequent pedal changes that do not sustain the harmony, and failing to retain low bass notes in the pedal (Booth, 1971); failing to change the pedal quickly enough, and failing to use imperceptible pedal blurring relative to stylistic playing (Neuhaus, 1973); regulating the pedal with reference only to the left hand, and considering the harmonic structure of the piece to the exclusion of melodic forms of pedaling (Riefling, 1962); allowing the damper pedal to become an outlet for rhythmic expression (Whiteside, 1961); pedaling without listening (Friskin, 1921); pedaling far too violently and noisily (Last, 1960; Ohlsson, 1982); failing to gauge accurately the height and depth of the pedal resulting in unclear pedaling (Last, 1960); and assuming that copious amounts of pedal will almost automatically create impressionistic effects (Adams, 1988).

Neuhaus (1973, p. 166) speaks of a "sanitary pedal" imposed by teachers who demand that the pedal be changed with every melody note, even though the harmony remains unchanged. But he states that "no good pianist ever uses such a pedal." Lhevinne (1972) warns that so much latitude can be taken in pedaling that the novice uses the pedal like a brush with which to paint the back fence, rather than with intelligence and definiteness.

### Reasons for Incorrect Pedaling

Newman (1956) suggests several reasons why pedaling is often cursorily treated by the teacher and seldom noticed by the student. These include a lack of aural attention by the student plus inadequate and misleading editorial suggestions provided for pedaling. Ching (1930) cites four reasons for incorrect pedaling: (1) bad teaching, (2) lack of teaching, (3) complete lack of musical feeling, and (4) carelessness. He concludes, however, that incorrect pedaling is almost always due to either the first or second reason.

### Pedagogical Views on Teaching Pedaling

As Giesekeing (1930) points out, young musicians almost never understand how difficult it is to play exactly according to the wishes of the composer. This perfection is possible only by a complete mastery of all forms of technique.

Good pedal technique is defined by Ching (1930) as a knowledge of when and how to use the pedal, as well as the ability to perform automatically or subconsciously the necessary pedal movements. Only when the performer has this skill and knowledge, according to Ching, can the pedal take its proper place as part of the student's general technical equipment.

### Methods of Instruction

Pedaling is sometimes of great concern to a composer, but at other times it is hardly notated at all. Collins (1986) suggests that the best method of instruction is for the pianist to notice carefully how the composer has used the pedal marks, and then to decide for himself or herself how to interpret them. Ohlsson (1982) believes that students should experiment with some of the more advanced forms of pedaling (such as half pedaling and pedal vibrato) on their own for fun and for the pleasure of learning.

But according to Ching (1930), although pedaling as a form of musical interpretation must ultimately depend upon musical experience and judgment, the foundations of most forms of pedaling can be taught by fairly definite rules. Such rules, he believes, are the surest way to acquire the necessary experience and judgment for artistic pedaling.

Schnabel (1954) concurs with this view. Good technique, according to Schnabel, can be acquired by many different means and methods. Some of these methods are easy, some difficult, some short, and some are rather long. But attempting to acquire a good pedal technique by abstaining from using the pedal, or by simply guessing and experimenting with its use, is a long, inadequate, and unacceptable "method." The art of pedaling requires profound study (Riefeling, 1962).

Cooke (1976) believes that students should study carefully all the rules first, which may then be skillfully broken to produce artistic effects.

Last (1960) recommends not only the study of pedaling as a form of technique equal to that of the arms, hands, and fingers, but also the practice of preliminary exercises as a teaching tool before various pedaling techniques are introduced into musical pieces.

### Conflicting Views

Not all pedagogues share the same views on the teaching of pedaling, or the relative importance of exercises in developing good pedal technique. Booth (1971) concludes that because good pedaling is a result of sound musical judgment and an educated ear, any advice or pedagogical exercises can only be regarded as preparatory and elementary. After a reasonable foundation in pedaling is acquired, the rest should be determined solely by musical taste. Bacon (1963) expresses a similar belief in stating that beyond certain elementary requirements pedaling becomes an individual matter. Neuhaus (1973, p. 163) believes that there is no correct pedaling "in general," that general rules about pedaling "have the same relation to artistic pedaling as some chapter on syntax to poetic language."



### Pedaling as an Aid to Individual Interpretation

Great piano playing is an individual matter, and most teachers recognize pedaling as an important aid to expressing this individuality. In a nearly identical performance of the same musical composition by two pianists, quite different results can be produced solely through dissimilar pedaling (Marsh, 1987; Riefling, 1962). In the opinion of Marsh (1987), an intelligent early training in the art of pedaling is an important key to developing an individually unique sound in interpreting music.

According to Ching, most piano music imposes a limit upon the freedom of individual interpretation,

but no such tradition [exists] with regard to the pedal--or virtually none. Here the artist has free scope, and provided he has the requisite knowledge and skill he can use this freedom to express his individuality and his art. (Ching, 1930, p. 36)

### Difficulty in Teaching Pedaling

Pedaling is sometimes referred to as "the most difficult branch of higher piano study" (Cooke, 1976). Numerous articles provide testimonials to this statement. Formsma (1976, p. 45) writes that the pedagogical problems involved in teaching pedaling have "provided inspiration for articles, problems for editors, and disagreement among performers, students, and teachers."

In his book on pedaling, Gieseeking states that adequate instruction in pedaling is very difficult because

the rules upon which we base our support can scarcely be produced. The exceptions would most likely surpass the rules. In many cases one could play as well without the pedal as with the pedal, giving sound reasons for the carrying out of either method. (Giesecking, 1930, p. 49)

According to Everhart (1958, p. 250), other than achieving the artistic qualities of touch and tone, "there is no greater challenge to the player than pedal effects."

### Importance of Listening

Most writers stress the prime importance of listening as a requisite to good pedal technique, saying that the ear must be the ultimate guide in determining when and how much pedal to use. Enoch (1977) urges teachers to take the time to establish good pedaling with both the foot and the ear. Booth (1971) believes that education in the use of the pedal begins and ends with the ear, since the ear is the only real medium of control. Everhart (1958) states that no amount of discussion will result in effective pedaling since pedaling is done by ear rather than by calculation. Schnabel (1950), however, warns in his writings on pedaling that while the ear should always be the final judge, the ear alone cannot teach the specific methods and means by which the various forms of pedaling are obtained. Lindquist (1968) concurs by stating that the well known cliché "pedal with the ear, not the foot" is a risky oversimplification.

Giesecking (1930) calls the thorough training of the ear a prerequisite to rapid progress and states that listening to one's self is by far the most important factor in all of music study. Leimer (1930), with whom Giesecking studied, refers to trained ears that have been developed through continuous self-hearing as the only way to achieve self-control. Dilsner (1968) refers to Leschetizky's belief that good pedaling depends on good listening to one's own playing, as a summation of the desired goal of all pedaling technique.

Most students do not hear all the sounds they produce, creating a tone deafness that makes an intelligent and convincing performance impossible (Friskin, 1921). According to Ching (1930), the longer a student practices a certain work, the more intensely he or she must listen to the pedaling and other effects that are produced, to guard against complacency in listening.

Newman (1956, p. 70) repeatedly stresses the importance of careful listening, saying that beyond teaching the student the basics of syncopated pedaling, the teacher's best help "can be to remind and re-remind the student to hear what he plays." Last (1960) shares similar views on the importance of careful listening. As Grasty-Jones (1988) points out, effective use of the damper pedal demands aural skills that should be cultivated beginning with a child's first experiences at the piano. Bacon (1963)

believes that nothing reveals a pianist's capacity to hear himself more than pedaling. Everything that is played, according to Friskin (1921), should constitute an exercise in ear training.

### Introducing the Pedals

Several different views exist on when and how to introduce pedaling to students. In the following sections, some of the prevailing beliefs on this topic are presented.

#### When to Introduce the Pedals

The teaching of pedaling is frequently withheld until after the student has acquired a proficient keyboard technique. Many teachers are afraid of allowing young students to use the pedal at all because they believe that pedaling will only create unmusical blurs. According to Marsh (1987), this is usually because the teachers themselves are uncertain about the proper training techniques to use to teach beginning students the correct use of the pedals.

Many writers lament this situation (Anson, 1966; Bacon, 1963; Bernstein, 1981; Ching, 1930; Marsh, 1987) and believe that pedaling technique should be taught along with keyboard technique. If the student learns early to use the pedals, he or she will learn that there is nothing mysterious about using them and pedaling will gradually become a natural habit (Ching, 1930; Marsh, 1987; Riefeling, 1962).

As Marsh points out, very young students (whose reflexes are often quicker than those of older people) usually have little trouble in learning to pedal. According to Anson (1966), young pianists should begin using the pedals immediately so that they can become a constantly functioning part of the player's entire mechanism, along with the eyes, ears, muscles, heart, and head. The right pedal should be used at the first lesson, and the others added as soon as possible.

Giesecking (1930, p. 40), however, advises studying "foot technique with the greatest accuracy" only after the pianist has acquired enough technique to interpret a composition fairly well. Ferguson (1969) believes that with the exception of children and beginners, pedaling should be practiced from the beginning of the study of a work as an integral part of the piece, not added later as a separate ingredient. Beginners are also advised by Riefling (1962) to avoid using the pedal unless they are sufficiently musical and gifted, and are capable of listening to themselves. Still others believe that pedaling should not be introduced until after a good finger legato has been achieved.

Bastien (1988) states that the correct use of the pedal may be taught late in the second year or early in the third year, whenever the child's foot is able to reach the

floor and a correct seated position can be maintained. Prior to this, he recommends using the pedal at the end of a piece, with chords, and in hand over hand arpeggios to satisfy the child's eagerness to pedal. Last (1963) also believes that pedaling can be introduced when the student has reached approximately grade two or three, but that no hard and fast rules can be made.

According to Agay (1981, p. 19), the student should be able to meet certain physical and musical prerequisites before being confronted with the challenge of pedaling. These include the ability to: (1) reach the damper pedal without sacrificing correct posture, (2) read notes quite fluently, (3) coordinate hand and foot work, and (4) some familiarity with basic theory and harmony.

In his chapter on pedaling, Booth (1971, p. 98) concludes that the answer to the question of when pedaling should be taught is "as early as possible, but as seldom as possible."

Several teachers warn against abusing the una corda pedal as a crutch, saying that it is preferable to rely on touch quality created by the fingers rather than the feet (Sandor, 1981). Whiteside (1961) believes that the una corda pedal is of very little value when used only for playing more softly and that it should be used more as a violinist uses a mute.

Bernstein (1981) speaks of a guilt shared by many pianists in using the pedals for fear of becoming dependent upon them in playing legato and playing softly. He recommends using both pedals from the beginning in learning a new piece, since their use is indispensable in enhancing skills that have been learned previously and in creating coloristic effects.

As Grasty-Jones (1988) points out, most students will have access to a piano with both a damper pedal and an una corda pedal, but not many students will be fortunate enough to have grand pianos equipped with sostenuto pedals. In addition, since the sostenuto pedal often functions improperly if it works at all, she suggests that students not only be taught how to use the sostenuto pedal, but also to find alternative ways of pedaling that utilize the damper pedal. Fetsch (1966) concludes that the decision of when to use this pedal obviously lies with the pianist.

#### How to Introduce the Pedals

Werder (1978) presents exercises for introducing the damper pedal that are geared toward students at four different levels of ability. Since the pedal is rarely used by young beginning students (because their legs are often too short), he suggests that students at the most elementary level depress the pedal only after the final chord of a piece has been played. Providing that the

student is able to reach the pedals and maintain a correct seated position and body alignment, depressing the pedal at this point can be a good introduction to syncopated pedaling. A student at the second level is capable of understanding the mechanical side of the damper pedal along with syncopated pedaling. Werder suggests playing single notes and counting in duple or triple meter to teach the timing involved in syncopated pedaling at this level. The pedal is released as the new note sounds. Third-level students practice delaying the timing in syncopated pedaling, so that the pedal is depressed after the new note sounds. At the fourth level, pedaling is used within musical compositions.

Ching (1930) believes that the use of the pedal depends almost entirely upon the harmonic structure of the music and, therefore, no knowledge of the pedal is of any practical value without some understanding of the general principles of harmony and chord formation. He advocates beginning the study of pedaling with basic principles of theory and types of chord formations. From there he compares pedaling chord inversions and chord changes, and refers to different levels of acceptable pedal blurs in reference to stylistic considerations. The art of pedaling, according to Sandor (1981), hinges on the ability to blend harmonics with discretion.



Giesecking (1938, p. 48) recommends beginning the study of pedaling by teaching a correct seated position. Next, the student can practice "time treading" and syncopated pedaling by studying suitable passages before working out the pedal in musical compositions. As a recommended exercise he suggests depressing the pedal in advance of the notes that are played.

Seroff (1977) believes that pianists should familiarize themselves first with the piano as an instrument. He feels that this is the most natural way to begin and that every other instrumentalist follows this procedure except pianists:

The pianist practices and accomplishes, and at the end of perhaps twenty years finds himself dumfounded at a child's questions of 'How do you make music on this box?' . . . I have yet to meet either pupil or teacher who devoted his first lesson to these fundamental questions, which should be the basis of good piano playing. (Seroff, 1977, p. 2)

Agay (1981) and Enoch (1977) also suggest that the first lesson in pedal include an examination of the pedal's damper mechanism. They further suggest that the student be taught to position the right foot correctly and to operate the damper pedal silently. According to Agay, pedaling should be studied at a comfortable and deliberate pace. He feels that it is not advisable to introduce new aspects of pedaling at each lesson, or to have the student learn special pedaling exercises at each consecutive lesson.

Last (1960) suggests demonstrating the vibration of strings to students by such simple methods as depressing the pedal and yelling into the piano, a technique that seems sure to get the students' attention. She also suggests teaching students to treat the pedal as a very sensitive mechanism and to learn the feel of the up-down motions of the foot along with correct placement of the feet on the pedals. She suggests testing for this feel on all instruments before any performance.

In her subsequent book on pedaling, Last (1963) recommends that students first understand the function of the damper pedal and then practice pedaling technique away from the keyboard. She mentions the correct positioning of the foot and stresses the importance of listening. Suggested exercises in pedaling include those in which the teacher plays while the pupil pedals.

According to Booth (1971), the very first lesson in the use of the pedal should demonstrate to the student that the less movement made by the foot (either up or down), the better the possibility of achieving sensitive results. The student should also be taught that the sole of the right foot always rests on the pedal and should never lose contact with it. Booth refers to this manner of pedaling as "invisible" pedaling (1971, p. 94).

Correct pedaling involves the use of natural tension in that the resistance offered by the pedal must be met by

contracting the muscles in the leg and foot (Bernstein, 1981). Therefore, Bernstein recommends beginning the study of pedaling by considering the posture of the feet and the feel of pedal resistance. He suggests an exercise in which the student places the right foot on the damper pedal and the toes of the left foot over the right. A downward pressure from the left toes as the pedal is activated exercises a braking control and prevents the dampers from slapping against the strings.

Before any pedal is used Anson (1966) suggests that the teacher explain its use, demonstrate what happens with the piano mechanism, and illustrate the sounds which then result.

#### Teaching Techniques for the Damper Pedal

The easiest use of the damper pedal involves sustaining the same chord for a period of time. The notes and pedal are then released simultaneously. Pedaling in this way is sometimes referred to as "direct pedaling." Ching (1930) refers to this use of the pedal as a preparation for legato pedaling.

Until the beginner knows exactly how to coordinate pedaling, Marsh (1987) believes that it is extremely important for the teacher to mark precisely even the simplest pedaling suggestions in everything that is used for pedal practice. Marsh feels that in the early training years the

student needs the visual help of such markings at all times.

### Activating the Damper Pedal

Several books and articles refer to the manner in which the damper pedal is depressed and released. The damper pedal may be depressed either before, with, or after the notes are played. It may be released either with the notes or delayed by varying degrees.

As mentioned earlier, rhythmic pedaling, or depressing the damper pedal simultaneously with the notes that are played, was originally considered the accepted method of pedaling. Today simultaneous pedaling is more likely to be regarded as the exception to the rule. Releasing the damper pedal in an appropriate manner is given more prominent attention in the various writings, and it is widely considered to be of more importance than how or when it is depressed. "The rule 'play first, pedal afterwards' is of permanent and universal validity, but like all rules, it has its exceptions" (Kentner, 1976, p. 72). Ching (1930) provides a series of exercises based on a single chord followed by musical examples to illustrate this concept.

Hamilton (1927) states that the pedal should always be depressed to its full extent by a quick downward movement made from the ankle joint and released by relaxing the pressure as suddenly as it was applied. According to

Hamilton, it is a safe rule to depress the pedal after sounding the note except when the note is very short or stands alone.

The belief that the pedal should be either completely down or completely up is also shared by Gebhard (1963). According to Gebhard, the pedal is activated by a relaxed, noiseless motion from the ankle. It is always pressed down, and never struck by the foot.

Grasty-Jones (1988) believes students should learn that pedaling to the floor is unnecessary. Placing only the big toe on the pedal rather than the entire ball of the foot helps to control the weight of the foot and eliminate blurring. She further suggests that as students gain more control of the damper pedal, they can experiment with degrees of pedal and find out how little pedal is needed to sustain tones.

Booth (1971) describes the "why and wherefore" of all pedal technique as a summation of two basic movements: depressing the pedal and releasing it. He further believes the point at which the pedal is released is more important than when or how it is depressed, which is a view also shared by Last (1960) and Lindquist (1966). Booth gives six exercises for teaching the student to correctly activate the damper pedal.

### Legato Pedaling

Legato pedaling is one of the most frequent uses of the pedal and is the one most often introduced first. It is also the form of pedaling that is frequently taught "to the total exclusion of every other type" (Booth, 1971, p. 101). Because legato pedaling involves syncopated timing between depressing and releasing the keys and activating the pedal, preparatory exercises and sometimes suggested prior to introducing this technique.

Agay (1981) suggests teaching the syncopated element of timing by having the student play single chords and depress and release the pedal while counting in a very slow quadruple meter.

Ching (1930) has the student practice rhythmical foot movements away from the piano while counting. He then combines foot movement with arm movements varying the height that the arm is dropped and the portion of the arm that is being used. He also provides musical illustrations of legato pedaling. Ching believes that two things must be considered in legato pedaling: the pitch or range of the keyboard in which the passage is played, and the dynamic level. The louder the tone and the lower the pitch, the longer the damper pedal must be allowed to dampen the sounds between the chords. He provides an interesting exercise comprised of cadence chords played in different

registers and at different dynamic levels to illustrate this point.

Hamilton (1927) suggests an exercise for developing legato pedaling that consists of playing a series of ascending notes with one finger and coordinating the timing of the pedal while counting. Pasquet (1981) recommends playing the C major scale very slowly with one finger while saying the words "up" and "down" to acquire the element of timing.

After the student has learned a legato pedal technique in conjunction with playing a series of slow chords, Marsh (1987) suggests that Hanon exercises be used as a second step in early pedal training. He believes that Hanon is useful in training students to create a legato quality in running passages. To avoid blurring the pedal, Marsh suggests that the student first be able to play the exercises at a tempo of at least 92 per quarter note. The procedures he suggests for pedaling the exercises in Hanon differ according to the meter and tempo of the exercise that is played.

The exercises in the first book of Hanon (all in 2/4 time), can be pedaled by depressing the pedal immediately after the first beat and lifting it exactly on the second beat of the measure. For those exercises in the second book (all in 4/4 time), the pedal can be depressed immediately after the first and third beats, and raised

exactly on the second and fourth beats. At a metronome marking of 120 or above, Marsh suggests that the pedal should be depressed after the first beat but not raised until the third beat. At speeds of 152 or above, the pedal can be depressed for an entire measure, resulting in as many as sixteen notes in a single pedal.

Pedaling in this manner is one form of accent pedaling, whereby the lift of the pedal produces an automatic accent. Marsh (1987, p. 50) refers to this type of accent pedaling as "clipping," because releasing the pedal exactly as the note is played "clips" the tone and creates a rhythmic pulse.

Seroff (1977) recommends a listening experiment with the damper pedal to illustrate two distinct tone qualities. In the first illustration, the student is asked to play a note and to depress the damper pedal while holding the note down. Then the student is asked to repeat the process but to lift the finger from the key as soon as the pedal is depressed. Although the note is sustained by the pedal in both examples, if the key is released while the pedal is held, it allows the hammer to fall all the way back to its starting position. This creates a wider range of vibration of the strings and enhances the quality of the tone. When the key is held down, the hammer only partially returns to its original position. Seroff believes that this illustration is useful in indicating to the student that the fin-



gers do not always need to hold on to the notes when using the damper pedal.

Bernstein (1981) recommends lifting the fingers for another reason. Freeing the fingers from a finger legato and connecting instead with the damper pedal enables the pianist to control the exact dynamic level of each note. This is useful if strain or discomfort prevents those pianists with small hands from controlling the contour of the dynamics. Although he states that some pianists regard the practice of relying on the pedal for legato instead of the fingers as an anathema, he points out that some of the greatest pianists indulge in this practice.

Anson (1966) has the student play scales with the third finger alone while playing and pedaling in various meters. He suggests experimenting with the length of time the pedal remain depressed.

Before the student attempts legato pedaling, Dumesnil (1958) recommends five preparatory exercises to acquire a syncopated motion between the hands and foot. These are done while counting away from the piano.

Farjeon (1923) recommends an exercise to be played first with finger legato and then with the third finger alone while the pedal connects the notes. He suggests varying the tempo and, when playing fast, to pull up suddenly from the note to assure that the sound is clean.

### Additional Pedaling Techniques

A number of writers discuss additional uses of the damper pedal as well as the sostenuto and una corda pedals but mostly from the standpoint of musical style. In his book on pedaling, Banowetz (1985) includes some pedagogical suggestions for various techniques for the use of the three pedals and examples of how to pedal specific works of selected composers. In earlier writings on the subject Banowetz (1981) also relates pedaling techniques and pedagogical suggestions to musical examples and stylistic considerations. Farjeon (1923) provides examples for the various uses of the pedals, including a number of exercises and studies.

The only way to distinguish between the various degrees of partial pedaling, according to Schnabel (1954), is through critical listening. He suggests three exercises or teaching the various positions of the damper pedal in relation to the degree of released sound. To test whether a certain position of the pedal produces the effect of a quarter pedal or 25 percent of released sound, Schnabel suggests playing a scale with the pedal slightly depressed and listening to determine that no blurring occurs. To test for half pedal or 50 percent of released sound, staccato notes should be played first without the pedal and then with the pedal depressed slightly so that some blur-

ring occurs. To test for three-quarters pedal or a 75 percent of released sound, a chord should continue to sound when the pedal is partially depressed. However, the sound should not be as resonant as when full pedaling is used. Schnabel also describes three means of partial pedaling to achieve a decrease in the dynamic level of a sustained chord.

Pedaling for color has been described by some as the least understood of the uses of the pedal. Slenczynska (1969) describes several uses of the damper pedal for color in Prokofieff's Visions Fugitives, Opus 22. Ching (1930) introduces this technique by explaining sympathetic vibration through the overtone series and then illustrates its use through musical examples. He treats staccato pedaling as a form of pedaling for color, which he introduces by playing chords and listening to the pedal release. He also provides an exercise for half pedaling.

A comparison between dry and liquid staccato and dry and liquid portamento is made by Gebhard (1963) to illustrate the difference between notes that are pedaled and those that are not.

#### Sostenuto Pedaling

Randlett (1967) describes more advanced means of employing the sostenuto pedal through a process of controlling the level of the dampers of the unwanted tones. He

provides step-by-step procedures to achieve this effect in musical examples.

Fetsch (1966) provides a sequence of steps that should be observed when using the sostenuto pedal and illustrates them through musical examples. He also provides examples for the simultaneous use of all three pedals.

#### Una Corda Pedaling

Graham (1963) believes that the teacher should be the one to show the student when to use the una corda pedal; consequently, he does not provide markings for this pedal in his pedal exercise book. Bilson (1982) recommends using the una corda pedal as a voicing tool for a defense against a piano with heavy grooves in the hammers. He suggests depressing this pedal partially to avoid the tinny sound that sometimes occurs.

#### Pedal Exercise Books

A few pedal exercise books have been published, some of which are now out of print. The authors include Anson (1966); Farjeon (1923); Graham (1963); Last (1963); Mirovitch (1954); Styron and Stevens (1964); and Podolsky, Davison, and Schaub (1966). These books present various approaches to introducing pedaling to the student. For instance, in his volume on pedaling, Mirovitch (1954) illustrates the role and function of the damper pedal in

piano repertoire. Graham (1963) employs a series of original compositions to introduce pedal plans which are markings for basic legato pedaling. One piece employs the sostenuto pedal in combination with the damper pedal. Last (1963) first presents exercises in which the teacher plays and the pupil listens. After the pupil is able to play and pedal, she introduces legato pedaling, rhythmic pedaling, and staccato pedaling.

Anson (1966) states that nothing seems more futile than the usual preliminary pedaling exercises in which the student activates the pedal while counting but does not depress the keys. He introduces legato pedaling, harmonic and melodic pedaling, and illustrates various uses of the three pedals through short pieces. Included are pedaling for color, pedal blurring, accent pedaling, and pedaling grace notes. One piece is provided for una corda pedaling and another for sostenuto pedaling.

#### Introduction of the Pedals in Piano Methods Books

The introduction of pedaling into current piano methods books, especially those frequently used in the United States, was examined to provide insight into when and how pedaling was introduced to students and what types of pedaling techniques were employed.

The United States has produced more method books than any other country (Bastien, 1988). When seen on display at

a major music store, the number of methods is overwhelming. Therefore, only a few of the more frequently used methods are examined for their treatment of the pedals.

The following charts indicate how and when the damper pedal and una corda pedals are introduced, whether or not preliminary exercises are included, and the pedaling techniques that are employed. The various means of introducing the pedals include: (1) photographs, drawings, illustrations, and markings in the music--none of which contain explanations, (2) abbreviated descriptions of the three pedals, (3) brief explanations of pedaling techniques, and (4) various introductory exercises.

Some methods present the concepts of a pedaling technique first, without reference to actual playing. Others indicate the use of the pedal without verbal explanations. In some, the pedal markings simply appear without prior introduction. Additional methods were examined as well, and similar instances were found to apply.

A wide diversity was found to exist in the continuity of pedaling concepts presented in the various methods. A divergence was found as well in the consistency with which pedaling was employed once the concept had been introduced. In general, the concept of pedaling did not appear to receive a high priority; neither did pedaling appear to be an integral part of the pedagogical sequence of the instructional materials.

<u>Method</u>	<u>How</u>	<u>Book</u>	<u>Pedal</u>	<u>Exercises</u>	<u>Technique</u>
Aaron Piano Course (1945)	Photos	2	Damper	No	Syncopated
Alfred Basic Library (1984)	Illus- tration, Words	1-B 3 6	Damper " . . .	No No No	Legato Syncopated Finger
Alfred Creating Music (1972)	Illus- tration	2 3	Damper "	Yes Yes	Legato Syncopated
Bastien Piano Basics (1985)	Illus- tration	1 4	Damper "	No Yes	Legato Overlapping
Bastien Piano Library (1976)	Without playing	1 4	Damper "	No Yes	Legato Overlapping
Bastien Very Young Pianist (1970)			(No pedal is used)		
Clark, Goss Look & Listen (1962)	Picture	B	Damper	No	Direct
Clark, Goss Music Tree (1973)	Drawing	B	Damper	No	Simultaneous

Figure 2-1

Introduction of the Pedals into Piano Methods Books

<u>Method</u>	<u>How</u>	<u>Book</u>	<u>Pedal</u>	<u>Exercises</u>	<u>Technique</u>
<u>Fletcher</u> <u>Piano</u> <u>Course</u> (1973)	Expla- nation	2	Damper	Yes	Pre-ped Syncopated
<u>Gilbert</u> <u>Music</u> <u>for</u> <u>Everyone</u> (1978)	In the music	2	Damper	No	Direct
<u>Glover,</u> <u>Garrow</u> <u>Piano</u> <u>Student</u> (1967)	Drawing, Sentence	1	Damper	No	Direct
	Reintro- duced	2	"	No	"
<u>Glover,</u> <u>Stewart</u> <u>Method</u> <u>for</u> <u>Piano</u> (1988)	In the music	P*	Damper & <u>Una Corda</u>	No	Syncopated depression
	Without playing	1 2	Damper & <u>Una Corda</u>	No	" "
<u>Medley</u> <u>Way</u> (1981)	Expla- nation	1	Damper	Yes	Syncopated
<u>Noona</u> <u>Gifted</u> <u>Pianist</u> (1986)	Illus- tration	2	Damper <u>Una Corda</u>	Yes	Syncopated
<u>Olson,</u> <u>et al.</u> <u>Music</u> <u>Pathways</u> (1974)	Expla- nation	1-C	Damper	No	Direct

Figure 2-1--continued

\* Primer level



<u>Method</u>	<u>How</u>	<u>Book</u>	<u>Pedal</u>	<u>Exercises</u>	<u>Technique</u>
<u>Pace Music for Piano</u> (1981)	Brief explanation No explanation	2 3 6	Damper " "	No No No	<u>Legato</u> <u>Overlapping</u> Non-traditional notation
<u>Royal Conservatory</u> (1975)	In the music	1	Damper	No	Syncopated
<u>Schaum Piano Course</u> (1945)	Without playing	B E	Damper <u>Una Corda</u>	Yes No	Pedal in rhythm
<u>Thompson Modern Piano Course</u> (1937)	Illustration No explanation	2 3	All 3 (Damper) <u>Una Corda</u>	Yes No	Syncopated . . .
<u>Waxman Pageants</u> (1959)	In the music	Intro	Damper	No	Syncopated

Figure 2-1--continued

Most of the methods that were examined did introduce the damper pedal, some used the una corda pedal either alone or in combination with the damper pedal, but none included examples for the use of the sostenuto pedal. However, these method books are for beginning piano students, and sostenuto pedaling generally is not required until more advanced levels have been attained.

### CHAPTER 3 PEDAGOGICAL MATERIALS AND TECHNIQUES

The pedals on the piano can be used in numerous ways and for a variety of musical purposes. For example, in his treatise on pedaling ("The Pianist's Guide to Pedaling"), Banowetz (1985) describes twelve distinct techniques for the damper pedal alone, plus additional techniques for each of the other two pedals either alone or in combination with other pedals. This study has developed a pedagogical approach for each of the techniques discussed by Banowetz. In addition, it presents four techniques not discussed in Banowetz's treatise on pedaling.

#### Composition of the Units

##### Overview

Twenty instructional units were developed, one for each of the pedaling techniques. Each unit includes a step-by-step guide to the teaching of a pedaling technique, as well as other useful related information. One additional unit was developed dealing with the pedagogical sequence for introducing each pedaling concept. These units form a comprehensive and systematic program of study

to help teachers teach their students to utilize the three pedals of the piano correctly and effectively.

The units for the teaching of each pedaling technique focus on pedagogical matters, with stylistic and notational considerations mentioned when appropriate. They describe the particular stage in a student's development at which he or she can best be taught each technique.

#### Format and Content

Each of the first twenty teaching units consists of the following format: (1) description of the technique, (2) application, (3) teaching procedures, (4) teaching examples, and (5) appropriate exercises. Various concepts are presented within each category according to the nature of the technique described in that particular unit. Before students can learn to pedal effectively, they need to understand: (1) why pedaling is necessary, and (2) how the mechanism of each pedal operates. The teaching units also address these considerations.

Each unit begins with a description of the individual pedaling technique that defines relevant terminology, describes the mechanical operation of the pedal as it is employed in the technique, and discusses the effect that the activation and release of the pedal have upon the dampers.

The section concerned with the application of the technique describes the function of the technique in

playing the piano and how it is accomplished. Suggestions for implementing the various pedaling techniques into the repertoire address the matters of how and when to employ a technique. By developing a stylistic awareness the student will be better able to apply each technique in an appropriate musical way.

The section on teaching procedures describes the necessary prerequisite knowledge and skills required for a student to learn each particular pedaling technique. A student should possess appropriate physical development, hand and foot coordination, and the ability to position the body properly. In addition, students need to have sufficient musical maturity to convey the intent of the music and a desire to learn. In general, these prerequisite conditions should be met before a student is taught the intricacies of piano pedaling techniques.

Some similarities and overlap exist in the teaching sequence for several of the teaching units, because each unit was designed to stand on its own for review purposes by the expert evaluators.

Teaching examples of each technique are described and presented in an increasing order of difficulty. A step-by-step process for executing the pedaling technique is provided for each example.

Additional exercises derived from musical examples are suggested that may be used to train the foot and develop

specific techniques. Suggestions for contending with limitations imposed by improperly functioning pedal mechanisms are presented as well.

The twenty-first unit develops a systematic sequence for implementing the first twenty pedaling units. From a pedagogical standpoint, it is not always advisable or practical to introduce the simplest pedaling techniques first since the student may not encounter some of the techniques until after certain levels of technical mastery have been achieved.

Together the twenty-one units form a systematic pedagogical study of the three pedals of the piano.

#### Procedures for Developing the Units

The techniques and sequence suggested in the units are a synthesis of available writings on pedaling and the examination of the introduction of pedaling in various piano method books, as well as the result of many years of experimentation by the researcher. Standard teaching repertoire was examined to determine when a student will be most likely to encounter pieces that utilize various pedaling skills. Exercise books on pedaling were also examined to determine their effectiveness in aiding the development of each technique.

## Teaching Unit 1: Legato Pedaling

### Description of Technique

Legato pedaling is also known as basic pedaling, syncopated pedaling, or following pedaling. It is the most fundamental of all pedaling techniques, and it is the one most commonly used. Its name is derived from the smooth legato connection of two or more successive notes or chords. The term "pedaling" is frequently used in a general sense to refer to this technique.

The damper pedal has three primary functions: (1) to connect tones that cannot be held by the fingers alone, (2) to prolong the sound, and (3) to add color. Legato pedaling is concerned primarily with the first function.

Numerous variations of legato pedaling are possible. In the simplest and most basic use of this technique legato pedaling involves the full retention of sound between two tones or chords. It is accomplished by fully depressing the damper pedal so that the dampers are completely raised from the strings. The pedal is released when the second chord or tones are played, allowing the two notes or chords to sound connected.

Depressing the pedal in this manner permits the pedal to descend to its maximum depth which is referred to as full pedal. Legato pedaling employs the concept of full pedaling but carries its use one step further by applying

it to the actual connection of tones. Therefore, legato pedaling differs from full pedal by incorporating the element of timing. The importance placed on timing in legato pedaling is reflected in the alternative names for this technique: syncopated pedaling and following pedaling. Legato pedaling involves timing the activation and release of the damper pedal in coordination with depressing the keys on the piano. This requires timing the (1) descent of the pedal, (2) release of the pedal, and (3) reactivation of the pedal.

The amount of time allowed between depressing the keys and activation and release of the pedal permits a great variety of choice. As a result, many shadings of tone color and effect are possible. These differences are subtle and their use depends on certain stylistic factors, as well as the pianist's own preference and skill. Variations on basic legato pedaling are covered in other units such as those on legatissimo pedaling, portato pedaling, and pre-pedaling.

Legato pedaling may be diagrammed as indicated on the following page. This example illustrates a number of ways in which the pedal may be used to achieve a legato connection of the notes. The amount of elapsed time between the pedal changes is approximate and somewhat flexible.

Example A: Beethoven - Variations on a Waltz Theme by Diabelli



Employing legato pedaling in this manner will permit the notes to be connected smoothly and cleanly together with no blurring from one harmony to the next and with no break in the continuity of sound.

Application When Playing

Legato pedaling is usually taught before other pedaling techniques are learned. Unfortunately, often it is the only pedaling technique taught and the only one that is regularly employed. While it is not easy to execute correctly, it demands less skill and coordination than many of the other uses of the damper pedal. For this reason, the temptation is to use it before the requisite knowledge and skills for developing good pedaling techniques have been sufficiently mastered by the student.

Teaching Procedures

Preliminary skills. It is important for the student to learn correct body alignment and the proper positioning



of the feet in relation to the pedals before the pedals are used. To position the body properly, adjust the height and distance of the bench from the keyboard. Ask the student to do the following:

1. Sit on the front half of the bench with both feet resting on the floor. Place the right hand on the keyboard. The forearm should be basically level, and the elbow should come either to the side of the body or just slightly in front. When these adjustments have been made, rest both hands in the lap.

2. Place the ball of the right foot on the damper pedal and the heel on the floor. The foot should be positioned directly in line with the damper pedal so that the heel is not turned to either side.

Ask the student to stand without using the hands or moving the feet. If this is not possible, adjust the placement of the left foot. Generally the left foot will need to be positioned closer to the bench so that the weight rests a little more on the ball of the foot. A correct seating position has been attained when the student can sit and stand comfortably without moving either the hands or the feet. The body is then free to move in either direction.

Have the student experiment with depressing and releasing the damper pedal silently. It is important that the foot maintains contact with the pedal and the heel

rests on the floor throughout. Ask the student to do the following:

1. Position the right foot on the damper pedal.
2. Slowly depress the pedal by placing weight on the ball of the foot behind the toes. Keep the heel on the floor.
3. Relax the foot and let the pedal rise. Keep the toes on the pedal.

Preparatory exercises. The syncopated activation and release of the damper pedal can be a difficult concept for the student to grasp all at once. Have the student experiment first with depressing the damper pedal in this manner. A simple broken chord pattern or hand over hand arpeggio can be used. Ask the student to

1. Play the first note of the arpeggio and hold it with the finger.
2. Depress the damper pedal.
3. Continue to play the arpeggio while the damper pedal remains depressed. Release the pedal at the conclusion of the arpeggio.

When the damper pedal is employed in this manner, the tones are sustained as long as the pedal remains depressed. The student is concerned only with activating the pedal and releasing it when pedaling is no longer desired. Timing is not a consideration. This preparatory use of the pedal is sometimes referred to as "direct" pedaling.

One of the more critical elements in training a pianist to pedal correctly is to train the ear to listen carefully to the sounds that are produced when the pedal is used. One exercise in listening and timing the activation of the damper pedal involves both teacher and student. The teacher begins by playing a series of chords very slowly while the student adds the pedal. Ask the student to

1. Depress the damper pedal immediately after the first chord is played by the teacher.
2. Lift the pedal after the next chord is played to clear the sound, then redepress the pedal.
3. Continue pedaling in this manner while the teacher increases the relative tempo of the chord changes.

Teaching procedures for legato pedaling. In order to connect two tones or chords in a clean legato manner using the damper pedal, the following procedures are recommended. Ask the student to

1. Play the first chord. While holding the notes on the keyboard, fully depress the damper pedal.
2. Play the second chord. While holding the notes on the keyboard, lift the pedal.
3. Redepress the pedal.
4. Listen to the second chord. The harmony should now sound clean, without any retention of tones from the first chord, because the dampers should have completely stopped the sound of the first chord after the second chord

is played. The chords will sound clean if the damper pedal is fully released.

5. Repeat the preceding procedures until the student achieves the coordination between foot and hands and can also produce a clean connection of the tones.

Before going on to the next step, have the student practice until the time required between playing the two chords and pedaling can be shortened. Then ask the student to do the following:

1. Play the first chord again and catch it with the pedal.

2. Play the second chord, and at the same time lift the pedal. Let the pedal come up to meet the chord.

3. Listen this time not only for a clean sound, but also for a smooth, unbroken connection between both chords.

While still holding the notes on the keyboard, ask the student to

4. Depress the pedal once more.

5. Listen again to be sure that the chord sounds clean. The new change of pedal should not retain any sounds from the first chord. If the harmony is at all blurred, this is an indication that the pedal was not fully released at the time the second chord was played. This condition does not allow the dampers to be completely raised from the strings but causes them to remain par-

tially in contact with them. It also does not permit the sound of the first chord to be completely stopped.

6. Repeat the above five procedures for each new chord.

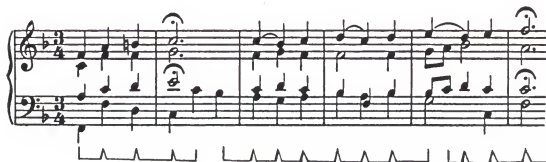
### Teaching Examples

Legato pedaling may be tested in the following examples:

Example B: Schumann - Choral from Album for the Young



Example C: Bach - Chorale Prelude in F No. 234,  
"Gott lebet noch"



Example D: Tobias Matthay - Pedaling Exercise

Andante



Rhythm of pedal

A more advanced example of the same concept involves delaying the timing of the damper pedal to avoid blurring the notes in the right hand. The example below illustrates this very syncopated use of the pedal to achieve legato pedaling.

Example E: Handel - Sarabande

Grave

Variation 2



## Teaching Unit 2: Legatissimo Pedaling

### Description of Technique

Legatissimo pedaling, also known as super legato pedaling, derives its name from the Italian term meaning that the tones should be very smoothly connected. In this type of pedaling, the sounds from one chord to the next are allowed to blur momentarily together before they are cleared, creating an overlap of sound. This is accomplished by delaying the release of the damper pedal between changes of harmony so that the dampers remain above the strings as the new harmony is sounded.

Legatissimo pedaling is a type of legato pedaling. By varying the amount of time between lifting and depressing the damper pedal, many different effects and shadings of color can be created. An illustration of approximate rhythms created by changes of the damper pedal that can produce nearly identical legato connections of chords is given below. The different pedal markings produce a difference in the amount of richness of sound, which is determined by the amount of time the pedal remains depressed. The longer the pedal is depressed, the fuller the sound created by the surrounding partials. As the pedal is released for longer periods of time, the surrounding partials will be progressively diminished and the richness of sound will decrease.

Approximate rhythms created by changes of the pedal in using legato pedaling can be shown as follows:

Example A: Beethoven - Variations on a Waltz Theme by Diabelli



The same principle can be applied to changes of the pedal in legatissimo pedaling. The difference, however, is a shift in the emphasis of thinking. Whereas in legato pedaling the emphasis is placed on depressing the damper pedal, in legatissimo pedaling the emphasis is placed on releasing it. Therefore, in a comparison of the two diagrams of the Beethoven Variations, it becomes apparent that the concern for the pianist is not in varying the amount of time allowed before activating the pedal after a chord is played, but rather with varying the amount of time that the damper pedal is allowed to remain depressed after the chord has been played and before the pedal is released.



Example B: Beethoven - Variations on a Waltz Theme by Diabelli



Application When Playing

The exact amount of time allowed between changing the pedal in any form of legato pedaling depends on stylistic factors and the desire for color in a given passage.

Legatissimo pedaling is often used to portray special effects such as atmospheric sonority, and smooth, unbroken transitions of sound. When properly employed, legatissimo pedaling can create the effect of one harmony growing out of another. There are no sharp tonal attacks and no breaks in the continuity of sound.

Although the desired effect is one of continuous sound, if carried to an extreme, legatissimo pedaling can create an unmusical blur of sound and obliterate the harmonies entirely. Careful listening is required to prevent this from happening and also to regulate the amount of overlap permitted between the chords.

Teaching Procedures

Preparatory exercises. Because legatissimo pedaling is derived from legato pedaling, it is necessary for a

student to be thoroughly familiar with the concept of legato pedaling before this technique can be successfully taught. Ask the student to do the following:

1. Play a chord on the piano. While holding the notes fully depress the damper pedal.

2. Play a second chord, and while holding the notes lift the pedal.

3. Listen to the second chord. The harmony should sound clean, without any carry-over from the first chord. The dampers should have completely stopped the sound of the first chord after the second chord is played. The music will sound clean if the damper pedal is fully released.

4. Repeat the above procedures until the student is comfortable with the coordination between foot and hands and can produce a clean connection of the tones. Before going on to the next step, have the student practice until the time required between playing the two chords and pedaling is reduced.

5. Play the first chord again and catch it with the pedal. Then play the second chord while lifting the pedal. Listen not only for a clean sound, but also for a smooth, unbroken connection between both chords.

6. While still holding the notes on the keyboard, depress the pedal once more. Listen again to be sure that the chord sounds clean and the new change of pedal does not retain any notes of the first chord. If the harmony is at

all blurred, this is an indication that the pedal was not fully released at the time the second chord was played, preventing the dampers from being raised completely from the strings so that the sound of the first chord is cleared.

7. Repeat the last two procedures for each new chord that is to be played using legato pedaling.

Legatissimo pedaling. The procedures for teaching legatissimo pedaling are similar to those given above, except that a slight blurring of the harmonies should be heard. This is due to the momentary delay in lifting the damper pedal after each new harmony. Although the pedal release is delayed, it must not be done in a haphazard manner. Have the student count while learning this technique. Ask the student to

1. Play the first chord. Then, while holding the notes, fully depress the damper pedal.

2. Play the second chord and keep the pedal depressed. The resulting blur will be offensive to a sensitive ear. Clear the pedal while still holding the notes on the keyboard.

3. Repeat the above procedures while counting so that the pedal will be released exactly at a predetermined point. Play the first chord on the first count. On the second count depress the damper pedal. Continue holding through the third and fourth counts. At the return of the

first count, play the chord again. Change the pedal on the second count.

Aside from stylistic and artistic considerations, the actual time allowed between playing the chord and changing the pedal is a matter of personal choice. This choice is influenced by extraneous variables such as the tonal capabilities of the individual piano and the acoustics of the hall or room.

### Teaching Example

One use of this technique is illustrated in the following passage. Legatissimo pedaling is used here in combination with the una corda pedal to create the illusion of sound floating in the distance. It should seem as if the tones are suspended in time and arise out of nowhere--with no beginning and no end. Both the damper pedal and the una corda pedal should be depressed before the notes are played.

### Example C: Scriabin - Sonata No. 1, Op. 6

The musical score is for a piano piece in B-flat major, 4/4 time. It features a series of chords in the right hand, mostly triads and dyads, which are sustained by a long, continuous damper pedal. The left hand plays a series of chords, mostly dyads and triads, which are also sustained by the damper pedal. The score is marked *pppp* (pianissimo). Below the staff, there are two pedal markings: 'Ped.' and 'u.c.' (una corda). The 'Ped.' marking is a long horizontal line with several small upward ticks, indicating the damper pedal is held down throughout the passage. The 'u.c.' marking is a long horizontal line, indicating the una corda pedal is held down throughout the passage.

### Teaching Unit 3: Pedaling for Rhythmic Effects

#### Description of Technique

The activation and release of the damper pedal influences the fullness of the tone that is produced, by determining the number of partials sounding at any given moment. Therefore, a change in the basic texture of the tone occurs when the damper pedal is used. Applying pedal allows the tone to become richer and a corresponding increase in the dynamic level can be heard. Likewise, when the pedal is suddenly released, it will cause an abrupt cessation of the surrounding partials, which diminishes the sound and makes it less full and rich. Using the pedal for rhythmic effects is another way to color the sound being produced.

The pedal can be used to project both written and unwritten rhythms. The amount and type of pedaling varies according to the purpose for which it is being used. Three primary uses of the pedal to project rhythm include: (1) waltz pedal, (2) pedal as a means of accentuation, and (3) pedal release for emphasis.

#### Application When Playing

Waltz pedal. The term "waltz" pedal refers to the type of pedaling that can be applied to pieces related to dance forms. Here pedaling is used to emphasize an appro-

priate beat or rhythmic pulse. It can also help to bring out the character of the particular dance.

Waltz pedal is often applied to pieces in triple meter. The damper pedal is usually activated in one of two ways. Either the pedal is depressed on the first beat and released on the second beat, or the pedal is depressed on both the first and third beats but is released in between on the second beat. The first type of pedaling is commonly used in waltzes, while the second, for instance, can bring out the characteristic rhythm of a mazurka. This is not to imply that other types of pedaling for such pieces do not exist, but merely to suggest an appropriate way of pedaling them.

Musical examples. The following musical examples illustrate both types of waltz pedaling. Suggested pedal markings are given below each example.

Example A: Chopin - Grande Valse Brillante



Example B: Chopin - Mazurka in D, Op. 33, No. 2



Accent pedaling. Pedaling the first beat of the measure and releasing the pedal on the second provides a lilt to the rhythm. It can emphasize the importance that these two beats play in portraying the character of the dance, and it can help project a subtle rubato between them. The typical mazurka rhythm, with its characteristic accent on the first and third beats, requires pedaling both of these beats.

Pedaling as a means of accentuation, or accent pedaling, is used to give added emphasis to notes by increasing the number of partials that sound. Pedal is often added to notes with a written accent or sforzando marking, or to passages requiring an accented, heavy non-legato touch.

The use of the pedal in these situations depends partially on a combination of the tempo of the piece, the harmonic rhythm, and dynamic markings. In a fast tempo it may not be possible to pedal quickly enough to clear the

notes between harmonic changes, especially if the texture is thick and the notes lie in a low register. Rapid changes of harmony can easily be obscured by too much pedaling, especially in a fast tempo and when the dynamic level is forte. Accent pedaling should be used cautiously under these conditions since it can be difficult to damp the inbetween sounds completely.

In addition, pedaling is often used to accentuate a syncopated rhythm. Generally, tied syncopated notes justify some type of accent. After the hammer has struck the strings, the tone on the piano quickly fades away, regardless of whether or not the notes are still held. In passages where a syncopated rhythm is difficult to project over an extended period of time, the damper pedal may be used to sustain the feeling of a regular pulse. When the pedal is depressed, a change of color occurs in the sound, and a slight crescendo is heard, due to the sounding of sympathetic partials as the dampers are raised above the strings.

Pedal release for emphasis. An accent may be achieved not only by adding pedal for emphasis but also by an exact, sudden pedal release on a note or chord. This technique is used only before a rest since a release of the pedal implies that the sound will cease.



### Teaching Procedures

Cautions. While applying the damper pedal is not a difficult task for a student who is already familiar with the concept of pedaling, several problems are inherent in rhythmic pedaling. In accent pedaling the dampers are lifted simultaneously with the notes or chords being played. This means that the pedal is depressed precisely as the hands play the notes on the keyboard. This type of pedaling affords the pianist the rare opportunity to keep time with the pedal. Therefore, it carries a strong temptation for the foot to hit or stomp the pedal.

Releasing the damper pedal incorrectly can also be a source of unintended error. When the damper pedal is suddenly released, the resulting silence resembles an attack of its own. Frequently, the pedal is released carelessly and is held over into the succeeding rest, creating a misplaced accent. In addition, chords that are played forte may require that the pedal be released slightly early for the sound to stop completely at the exact moment of the rest.

Preparatory exercise. All types of accent pedaling require careful listening to determine when and how much pedal should be used. Therefore, the first step in learning this technique involves listening. Experimenting with different durations of pedaling and pedal release can help the student gain an understanding of how the pedal is used

in these situations. First ask the student to do the following:

1. Begin by playing single notes or chords without using pedal. Listen to the sound as the notes are played and as the dampers mute the strings when the notes are released.

2. Play a chord and hold it, then depress the damper pedal.

Notice that when the pedal is applied the following changes occur: (1) Color and richness enhance the tone, and (2) a slight swelling of sound gives the illusion of a crescendo. These changes occur because of the added partials sounding when the dampers are fully raised from the strings. Therefore, the pedal can be useful in giving added emphasis to accented notes, important harmonies, and notes that are tied.

Pedal release for emphasis. Ask the student to:

1. Play any chord on the piano and depress the pedal as the keys are played. The lifting of the dampers should be simultaneous with the sounding of each chord.

2. Release both the pedal and the hand exactly together so that the dampers mute the tones at the same moment the notes are played.

To assure that the timing is exact, it can be useful to have the student count aloud. Ask the student to count one measure of 4/4 time and then:

3. Play the chord and depress the pedal on the first beat; release both the chord and the pedal on the third beat. Vary the dynamic level of the chords being played.

The release of the pedal and chord should happen very quickly. Ask the student to notice the accent that occurs at the moment of rest.

It is easier for the dampers to mute the tones completely when they are played softly than when they are played fortissimo. Therefore, loud passages require careful listening and special care in releasing the pedal. It will be necessary to release the pedal a bit early--an instant before the beat, to stop the sound precisely on the rest.

#### Teaching Example

Apply the procedures suggested for pedal release to the example below. Because of the dramatic nature of this piece it is not necessary to depress the damper pedal simultaneously with each chord. Also because of the nature of the piece, the chords should not be released too quickly. Releasing the chords too quickly will destroy the intensely dramatic character of this section. However, it is important that the silence between each chord be very rhythmic. The pedal is marked in this example so that the dampers will mute the sound exactly on the third beat.

Example C: Liszt - Sonata in B Minor



Teaching Unit 4: Una Corda Pedaling

Description of Technique

Terminology. The left pedal, or una corda pedal, is known by several names. These include the sordino, the "muting" pedal, the "shifting" pedal, and the "soft" pedal. The una corda pedal has two main functions, both of which are tonal: to enable the pianist to achieve softer dynamic levels than are possible by finger technique alone, and to produce a more mellow, less percussive sound.

Activation of the una corda pedal is commonly indicated by one of the following terms: una corda, u.c. (one string), due corde (two strings), and sordini (mutes). Other terminology include: une corde, sourdine, la pédale sourde, petite pédale (French); mit Verschiebung, mit einer Saite, mit Dämpfung (German); and sordino, sul una corda, and poco a poco una corda (Italian).

The release of the una corda pedal is indicated by one of the following: tre corde (three strings), tutte corde, tutte le corde, 3 cordes, ohne Verschiebung, t.c., poco a poco tre corde, poco a poco tutte le corde, and due corde.

Use of both the una corda pedal and damper pedal simultaneously is indicated by the following: Ped. 1 and 2, con 2 Pedale, 2 ped., 2 Ped., due Ped., Les deux pédales, Mit beiden Pedalen, Beide Pedale, 1 due pedali, Très enveloppé de pédales, and con sord e Ped.

Operation. When the una corda pedal is depressed on a grand piano, the keyboard and the entire hammer mechanism shift slightly to the right so that on most notes the hammers strike two strings instead of three. This produces a decrease in dynamic level as well as a change in tone quality. In addition, the string that is not struck vibrates sympathetically as the hammer comes in contact with the other two strings. This vibration creates partials that produce a sound completely free from percussion and that contribute to an overall veiled sonority.

In a properly regulated piano, the shifting of the hammer mechanism to the right allows the hammers to strike the strings with a softer, less used portion of the felt. With use, hammer heads receive impacted grooves that coincide with points of contact with the strings. Unless they are voiced regularly, hammers can become quite brittle and produce a harsh tone. Playing between the grooves on the

head of the hammers produces a change in tone color that softens any harsh effect.

On upright pianos there is no change in tone quality when the left pedal is depressed, for no shifting action occurs. The una corda pedal merely decreases the striking distance of the hammers by moving them one half-inch closer to the strings. While this can diminish the sound, it also upsets the tonal and touch control. Consequently, there is no resemblance between this action and the true function of the una corda pedal. Its use in this capacity is not considered here.

The term una corda is somewhat of a misnomer, originating from piano mechanisms of the late eighteenth and early nineteenth centuries. On these instruments it was possible to shift gradually from the una corda position (by fully depressing the left pedal so that the hammer struck only one string per note), to due corde (by depressing the left pedal lightly so that the hammer struck two strings per note), and finally to tre corde (by releasing the left pedal entirely, and allowing the hammer to strike all three strings per note). Beethoven often indicated una corda, due corde, and tutte corde in his scores.

It is not possible to achieve a true una corda on today's concert grand pianos. Contemporary instruments do not shift quite as far to the right when the una corda pedal is depressed, and the hammers clear only the left

string of each note. On some pianos, such as Bosendorfer grands, the hammers continue to strike all three strings to some extent. Thus, tre corde and due corde are possible on most contemporary grand pianos, but una corda is not.

Applying the una corda pedal to low bass notes produces a slightly different effect. Bass notes have only two strings per note while the lowest bass notes have only one string each. Consequently, their volume is reduced less by use of the una corda pedal than is the volume of notes in the upper registers. The change in volume and tone quality that occurs when the una corda pedal is applied to bass notes is due mainly to the shifting motion of the hammers, causing a softer portion of the felt to come in contact with the strings, and producing a more muted effect.

#### Application When Playing

Function. The una corda pedal may be used for the following purposes: (1) to color the tone, (2) to achieve echo effects, (3) to lengthen a crescendo and diminuendo, (4) to round-off slurs and phrase endings, (5) to soften an accompaniment, and (6) to increase the intensity of the tone.

The una corda pedal functions in much the same way as a string player's mute. It should be used when a muted sound is desired, and when a change of tone color is

appropriate in the music. One obvious use in achieving a difference in tone is to use the una corda pedal in creating a soft echo effect such as in the repetition of a short phrase. This is very effective when applied within an already quiet dynamic context. The echo effect may be extended to include longer sections; for example, the repeated sections in the various movements of keyboard suites and partitas may be played with the una corda pedal depressed.

It is often said that the una corda pedal should not be activated during a diminuendo but immediately following, since a noticeable change of tone color may occur. However, there are many exceptions to this. One instance involves using the una corda pedal in combination with the damper pedal to extend a crescendo and diminuendo. A pianist may begin a crescendo by starting ppp with the una corda pedal depressed (but not the damper pedal), increase the volume gradually to mp where the una corda pedal is removed, and build to fff with the damper pedal. A gradual diminuendo can be accomplished the same way by applying the una corda pedal again near the end of the phrase and ending ppp as in the beginning with the una corda pedal only.

The una corda pedal can be effective in shaping the endings of slurs and phrases, especially within an already soft dynamic area and when the tone quality of the piano is hard and bright. It may also be used to soften an accom-



paniment, thereby giving it a different tone quality from the melody. In both these uses, careful listening is required to assure that the change in tone quality is not too extreme for the particular piano being used.

Because the una corda pedal lessens the percussive element of the tone, it can be used in playing forte. This is effective in creating different levels of intensity, especially in a piece that is basically forte throughout. For instance, different intensities of forte can be created in a multi-sectional piece by playing the first section forte with the una corda pedal depressed, the second section forte without the una corda pedal, and the third section fortissimo.

Use and misuse. The role of the una corda pedal is frequently misunderstood. As a result, it is often over-used or ignored completely. Many pianists use the una corda pedal as a crutch, allowing it to remain depressed throughout an entire composition. One common mistake is to "ride" the left pedal, using it whenever a piano or pianissimo occurs in the music. This usually happens as a result of nervousness.

There are many reasons why it is tempting to use the una corda pedal as a crutch. The piano sounds more gentle and is easier to control in softer passages when the left pedal is applied. The una corda pedal helps to eliminate the percussive element in the sound in a way that is not

possible by muscular control alone. Depressing the una corda pedal can help prevent unpleasant surprises in sonority during a public performance, especially when it is necessary to play on an unfamiliar and imperfect instrument.

Sometimes the una corda pedal is a pianist's only defense against improperly regulated hammers. Depressing the una corda pedal only partially down allows it to be used as an aid in voicing. This position offers an alternative to playing in the grooves that have been created in the felt by the constant hitting of the hammers on the strings. It allows the pianist to alter the tone somewhat.

Cautions. Careful listening is necessary when the una corda pedal is used in this manner. Any time the una corda pedal is applied, there is the possibility that an unwanted, slightly tinny sound may occur. This is more evident on some pianos than on others. It can result from the hammer striking the strings both slightly in the grooves and slightly on the hardened edges of the grooves at the same time when the una corda pedal is depressed only partway down. When the pedal is fully depressed, this tinny sound can result from the hammer striking strings one and two in grooves two and three.

Whenever possible, it is preferable to produce a change in tone quality through finger technique rather than by una corda pedaling. An overdependence on the una corda

pedal limits the tone color that can be achieved through muscular control. Most accomplished pianists can achieve a variety of timbres and play pianissimo without relying on the una corda pedal. Once muscular control has been developed, dynamic and tonal capabilities can be expanded greatly when the una corda pedal is applied.

The decision to use the una corda pedal is often one of personal choice. The effect of the una corda pedal varies greatly from piano to piano; therefore, its use may not always be the best musical choice, even when called for by the composer. Also, the habits and temperament of individual pianists vary, and some pianists are much more inclined to use this pedal than are others.

### Teaching Procedures

Considerations. Unlike the other two pedals, the una corda pedal is almost always depressed before the note is played, not at the same time or afterwards. There are two main reasons for this. First, the hammers must be positioned to strike only one or two strings in advance if the una corda pedal is to be effective. Second, if notes are played while the shifting motion of the hammers occurs, a noticeable change in timbre may result, along with an unpleasant tone.

The tinny sound that is produced on some pianos when the una corda pedal is activated is most noticeable in the

extreme upper registers of the keyboard. The degree to which this unpleasant sound is produced may be controlled by varying the descent of the una corda pedal. Relatively new hammers will respond well to a full depression of the pedal, while those that have deeply grooved surfaces may respond best to a partial pedal depression. In either case, careful listening and control is necessary.

The mechanical application of the una corda pedal is not difficult. There are no complex pedaling techniques to master that require coordination and skill. What is involved, however, is a careful and discriminating use of the una corda pedal. The task for the teacher is not so much one of teaching a skill, but of teaching discrimination within that skill.

Positioning the foot. Since the una corda pedal is depressed with the left foot, it is important to position this foot correctly before beginning to play. Ask the student to do the following:

1. Sit correctly and comfortably at the piano. Place the left foot on the floor behind the una corda pedal, and check that the body is balanced. (When activating the una corda pedal care should be taken that no extraneous or distracting motions occur, such as lunging forward.)

2. Position the left foot on the una corda pedal so that the ball of the foot rests on the surface of the pedal, and the heel rests comfortably on the floor directly

behind the pedal. Practice gliding the foot to and from this correct position.

3. Place the right foot on the damper pedal.

A. Depress the una corda pedal only, while playing chords in the middle register of the keyboard using both hands.

B. Keeping the una corda pedal depressed, play chords in both the extreme upper and lower registers of the keyboard. Shift the position of the heel to counterbalance the body weight. When both hands are playing at the upper end of the keyboard, angle the heel slightly to the left; when both hands are playing in the bass, angle the heel more to the right.

Activating the una corda pedal. Ask the student to place the right foot on the damper pedal and the left foot on the una corda pedal. Both feet should remain in contact with the pedals at all times. Check for this and the activation of the una corda pedal. Ask the student to do the following:

1. Silently depress the una corda pedal by a gentle pressure coming from the ball of the foot behind the toes.

2. Release the pedal by relaxing the foot and toes. Avoid moving the entire foot, which encourages the heel to rise and sometimes causes an audible "hitting" of the pedal to occur.

### Teaching Examples

Most pianists have a favorite passage that can be used to test the una corda pedal. It is important to know, before beginning to play, whether or not the pedal is regulated correctly, and whether or not the hammers are voiced so that no unpleasantness of tone will occur when the una corda pedal is activated. It is also important to hear the degree to which the una corda pedal influences the tone.

The following example illustrates the concept of echo pedaling. It is useful in providing a comparison between the normal tone color of the instrument and that of the una corda pedal. Since both hands move up an octave in the repetition, the student may want to shift the position of the left heel slightly to counterbalance this effect.

Example A: Beethoven - Sonata in Eb, Op. 31, No. 3

Allegro

pp

u.c.

tre corde

u.c.

pp

The next example calls for the una corda pedal to be used in combination with the damper pedal. The full tex-

ture and wide spacing provide an opportunity to check a greater range of sound. Ask the student to:

1. Pre-pedal both the una corda and damper pedals.
2. Play the passage as indicated. Listen carefully to the sound that is produced to determine whether the una corda pedal should be partially or fully depressed. It may be necessary to adjust the level of the una corda pedal according to the register and dynamics.
3. Repeat this passage in the upper and lower registers of the keyboard, and at various dynamic levels. Again, listen carefully to the sound to determine the correct depth that the una corda pedal should be depressed, which may vary in the different registers. Notice whether the heel should be shifted slightly for balance in either direction.

Example B: Schubert - Impromptu Op. 90, No. 3

Andante

3.

Damp. ped.  
u.c.

## Teaching Unit 5: Pre-Pedaling

### Description of Technique

Pre-pedaling refers to the activation of one or more of the pedals before depressing the notes on the keyboard. In this unit the term refers to the damper pedal alone or in combination with the una corda pedal. Pre-pedaling can be used not only in the beginning of a piece but also within a movement or section as well.

### Application When Playing

Pre-pedaling the damper pedal allows all of the dampers to be raised fully from the strings before any keyboard sound is produced by the hands. This technique provides a number of advantages. When the dampers are fully raised, all the other strings on the piano are permitted to vibrate sympathetically with the strings that are struck by the hammers. The result is an enriched sound. Pre-pedaling can also allow for greater control over the sound, because without the weight of the dampers it is possible to achieve a lighter, more even touch.

When the una corda pedal is activated, the hammer mechanism on a grand piano automatically shifts slightly to the right, so that on the majority of notes the hammers strike only two strings rather than all three. This has the effect of not only reducing the volume of sound, but also altering the tone. The slight shifting enables the



hammer to strike the strings with a softer, less impacted part of its surface. In addition, a light vibration occurs in the string which is not struck by the hammer, creating a veiled sonority. If the una corda pedal is depressed before playing anything on the keyboard, the resulting sounds are softer, and there is less tendency to hear the initial attack.

Depending on the dynamic level of the music, pre-pedaling can help produce tones which seem to appear quietly out of nowhere or forte sounds that are even more resonant and full. Its use is generally limited to the following situations: (1) passages that begin forte but have very few opening notes to convey the effect, (2) forte chords that require the full support of the pedal, and (3) opening pianissimo passages, or those in which sufficient time exists to use the pre-pedal procedure without retaining previous sounds in the pedals. In the latter case, both the damper and una corda pedals should be used.

### Teaching Procedures

In the sense that pre-pedaling involves only depressing the pedals before beginning to play, it may seem that nothing more needs to be said about this technique. However, there are certain points to guard against that can detract from its use. The following procedures are recommended for teaching pre-pedaling. Ask the student to

1. Sit comfortably at the piano, and check to see that the weight is not forced unnaturally on either foot.

2. Rest the foot lightly on the pedal or pedals to be depressed.

3. Lean the body slightly forward into the keys, in a natural, relaxed position. Place the hands over the notes to be played. It is more effective as well as practical to position the body before depressing the pedals. Otherwise, the forward motion of the body as the pedals are depressed could activate them too quickly and create a noise.

4. Have the student depress the pedal or pedals to be used slowly and gently so that there is no sound.

- A. A sudden lift in the dampers can create an audible sympathetic vibration in the strings, which is magnified when the damper pedal is depressed. If this happens, a slower pedal descent is needed.

- B. A forceful depression of the pedals can produce a noise that then becomes amplified. If this happens it is an indication that the pedals should be depressed more gently.

- C. If the una corda pedal is employed, it should be activated carefully, just as the delicate texture of the music for which it is being used would indicate. Any extraneous motion or noise definitely detracts from the intended musical effect.

Teaching ExamplesExample A: Debussy - La cathedrale engloutie

Profondement calme (Dans une brume doucement sonore)

Ped. \_\_\_\_\_

Pre-pedaling is very appropriate in the preceding example because of the descriptive nature of the piece. The sounds should appear to arise out of nowhere, just as the cathedral will eventually emerge from the depths of the sea. Any displaced accents in the opening section will destroy the entire effect. Nothing should interfere with the profound calm that permeates throughout.

A similar instance is found in the opening measures of Debussy's "Reflets dans l'eau." Depressing both pedals before beginning to play helps to create the image of tranquility, and enhances the delicate touch required to properly execute this piece.

Example B: Debussy - Reflets dans l'eau

Andantino molto (tempo rubato)

Ped. \_\_\_\_\_

## Teaching Unit 6: Finger Pedaling

### Description of Technique

Finger pedaling is a useful technique that can aid conventional pedaling, especially legato pedaling. It refers to holding notes with the fingers while the damper pedal is changed, or when no pedal is used. This gives the illusion of longer periods of unbroken pedaling.

There are a number of situations in which finger pedaling can be applied. These include finger pedaling to: (1) sustain an accompaniment, (2) silently redepress notes, (3) redistribute notes between the hands, (4) color broken chord patterns, (5) emphasize the harmonic outline, and (6) sound sympathetic partials. In addition, finger pedaling is sometimes indicated by the composer. Composers indicate finger pedaling by notes that are double stemmed, by notes having a longer time value, or by written instructions in the musical score.

### Application When Playing

Finger pedaling is a form of pedaling that is often neglected. It differs from other pedaling techniques in three ways: It is executed by the fingers rather than the foot, it is seldom indicated in the musical score, and when it is indicated in the score it is usually marked carefully and specifically.

Finger pedaling marked in the score. The simplest and most obvious use of finger pedaling occurs when composers specify notes that are to be held by writing longer note values or by double stemming. This is often done for harmonic, melodic or dynamic emphasis. Sometimes composers indicate finger pedaling through written directions specifying that certain chords are to be depressed silently, then held. This interesting technique utilizes the sounding of sympathetic partials to create special effects. It may be accomplished both with and without the use of the damper pedal.

Finger pedaling not marked in the score. The decision to use finger pedaling is sometimes a matter of personal preference as well as musical style, especially when it is not specifically marked in the score. It is determined by considerations such as the tempo of the piece, the resonance of the particular piano being played, and the technical ability of the performer as well as the size of his or her hands.

A technique sometimes referred to as "silent substitution" is a form of finger pedaling. In silent substitution, notes that cannot be held in the same finger for the duration of the note are held by a substitute finger. While one finger is holding a note, a different finger slides onto the same note and continues to hold it. This technique is used to sustain a melodic line and create

a more legato effect. It is also a means of technical facilitation and of redistributing notes between the hands. Silent substitution may or may not be indicated in the music.

Sometimes it is necessary to finger pedal to sustain an unbroken sonority in the accompaniment as the pedal is changed because of the melody. Holding individual notes while changing the pedal can blend harmonies together and emphasize the harmonic structure of the music. When these notes are part of a broken chord pattern, such as an "Alberti bass," finger pedaling can give the effect of legato pedaling and can add warmth and color to an otherwise dry tonal quality.

Silently redepressing notes is another form of finger pedaling that is used in a number of situations. Notes that cannot be reached by one hand but still must be held throughout a change of pedal can be redepressed silently after they are played and still be retained in the pedal. Silently redepressing notes then changing the pedal is one way to differentiate between notes of different rhythmic durations or between notes and rests.

Pianists borrow one form of finger pedaling from organ technique known as "organ thumb." In organ thumb, the thumb slides sideways along the surface of the keys producing a legato touch. Because of the sideways approach, organ thumb is more effective in a soft dynamic context.

### Teaching Procedures

Preliminary exercises. Many students first encounter the concept of finger pedaling as silent finger substitution indicated above one or two notes. Ask the student to carry this concept one step further and to

1. Play any descending scale in the right hand. Repeat it four times, varying the consecutive finger combinations each time. For example:

5--4-5--4-5--4-5--4-5--4-5--4-5--4-5;

4--3-4--3-4--3-4--3-4--3-4--3-4--3-4;

and so forth.

2. Play any ascending scale in the right hand. Repeat it four times, varying the consecutive finger combinations each time. For example:

1--2-1--2-1--2-1--2-1--2-1--2-1--2-1;

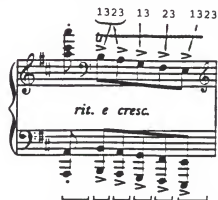
2--3-2--3-2--3-2--3-2--3-2--3-2--3-2;

and so forth.

3. Repeat the same procedures for the left hand using consecutive fingerings for descending and ascending scales that are the reverse of the right hand fingerings given in the first and second steps.

### Teaching Examples

Have the student apply finger pedaling to the trills in the musical passage below, using the fingering that is marked.

Example A: Chopin - Polonaise in A

Organ thumb. Organ thumb works best when applied to descending consecutive notes in the right hand, and to ascending consecutive notes in the left hand. It is also executed more easily on the white keys. To teach organ thumb, tell the student play a C major descending scale in the right hand using the thumb only. Ask the student to do the following:

1. Place the right hand on the keyboard using a good hand position. (Guard against the tendency to straighten and stiffen the hand.)

2. Play "C" with the upper portion of the thumb. Slide the thumb forward to the first joint. At the same time turn the tip of the thumb to the left, so that it points towards "B".

3. Play "B" with the tip of the thumb in the sideways position. Slide the thumb forward while pivoting it to the right. (This will propel the hand forward toward the next



note and place the thumb joint nearly at right angles with the key.)

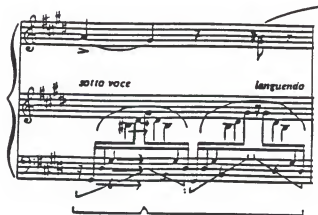
4. Pivot on the thumb joint, and turn the tip of the thumb to the left so that it points towards the "A".

5. Repeat this procedure for the entire scale. (The action should become very smooth and executed without pause. Check to see that the notes are played from a sideways position, and that no lifting of the hand occurs that can interrupt the flow. When played correctly, the thumb joint will be approximately even with the edge of the keys.)

6. Reverse the procedure for the left hand, playing an ascending "C" major scale.

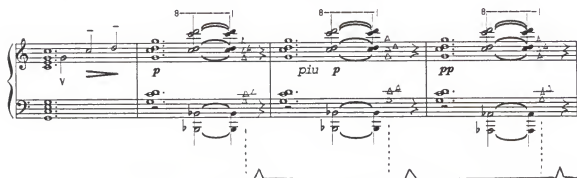
Sustaining an accompaniment. The musical example below requires the left hand notes to be held while the pedal is changed because of the melody in the right hand.

Example B: Liszt - Etude in Db ("Un Sospiro")



Silently redepressing notes. In the example below, finger pedaling by silently redepressing the notes of each chord makes the rests more apparent and creates a distinction between the two harmonic lines.

Example C: Debussy - "La cathédrale engloutie"



Silently re-depress notes

### Teaching Unit 7: Staccato Pedaling

#### Description of Technique

Staccato pedaling, as its name implies, refers to the very short, staccato activation of the damper pedal that permits the dampers to be momentarily raised fully from the strings. This action produces a fuller sonority than is possible by the fingers alone, since it allows all of the strings to vibrate sympathetically with those being struck by the hammers.

Staccato pedaling is used in the following situations:

(1) to enhance the sound of staccato notes or chords, (2) to project a forte, (3) for accent, (4) for color, and (5) to lengthen those tones slightly that otherwise would end too abruptly.

#### Application When Playing

Staccato pedaling is limited to one main function: adding a very quick pedal to staccato notes or chords. Its use depends on (1) stylistic considerations, (2) dynamic markings, (3) personal preference of the pianist, and (4) the tempo of the music.

More time is needed for the sound of bass notes to cease than is needed for treble notes. As the dynamic levels increase or as more notes are added to the chords being played, more time is required for the sound to die away. Sufficient time must be allowed between the chords for the sound to clear completely before the next chord is played. The faster the tempo, the more cautious one should become in applying this technique. If pedal is added to forte chords played in a low register at a rather fast tempo, only very short touches of pedal are required.

Staccato pedaling is not used when a composer has used staccato markings to indicate a lightness of touch or where the repetition of a sustained harmony indicates that another form of pedaling would be preferable. Therefore, this

technique cannot be applied indiscriminately to all notes or chords marked staccato.

Staccato pedaling is sometimes used to slightly lengthen the final sound of staccato chords that otherwise might sound too abrupt. This use is sometimes referred to as "portato pedaling," since when it is applied the chords sound as if they are played slightly more portato than staccato. Staccato pedaling in this way closely resembles pedaling to enhance phrasing and articulation, which is discussed in a separate unit.

#### Teaching Procedures

Staccato pedaling is the simplest of all pedaling techniques to execute, because it complements the natural tendency to synchronize the motion of the foot with the hands. It involves an exact coordination between the pedal and the notes, as the damper pedal is depressed at exactly the same moment the hands depress the keys. Unless staccato pedal is used to lengthen the release of the tone slightly, no syncopation is involved between the pedal and hands as it is in every other pedaling technique.

Most students are taught legato pedaling first, which is a syncopated form of pedaling. Therefore, the idea of depressing the pedal with the notes may seem somewhat foreign, initially. The student may be tempted to tap the foot on the pedal or to keep time with the foot.

The following procedures are recommended for teaching staccato pedaling. Ask the student to do the following:

1. Play any very short, staccato chord on the piano and listen to the sound. The dampers should mute the sound completely as the chord is released. All notes should sound equally staccato. If they do not, either the action of the piano is not properly regulated, or the student is not releasing each finger at exactly the same moment.

2. Play the same chord again, but this time add a staccato pedal. Depress the pedal exactly with the chord and release it at the exact moment the hands release the keys. This is important because very little time is allowed for the pedal to raise the dampers completely off the strings. Ask the student to hear mentally the desired sound each time staccato pedaling is applied. Otherwise, it is easy to become too enthusiastic in the application of this technique and release the damper pedal with too much force. This will cause an unmusical twang to be heard.

The next procedure is similar to one used in teaching accent pedaling, which is covered in the unit pertaining to pedaling for rhythmic effects. Ask the student to

3. Vary the dynamic level of the chords that are played.

It is easier for the dampers to mute the tones completely when they are played softly than when they are played fortissimo. Therefore, loud passages require

careful listening and special care in releasing the pedal. It is necessary to release the pedal slightly before the hands to mute the tones completely when the dynamic level is fortissimo and full-textured chords are played in a low bass register.

4. Play staccato chords in both the bass and treble registers. Listen to the difference in the amount of time required for the notes to cease sounding. Add staccato pedaling to the chords. The student should notice that the bass chords become less short with the addition of pedal.

5. Play only chords in the low bass register. This time release the pedal slightly ahead of the hands. This is not easy to execute correctly, but it preserves the integrity of the staccato sound.

### Teaching Examples

In the following example staccato pedaling is used to accent the sforzando chords.

Example A: Beethoven - Sonata in F Minor, Op. 2 No. 1

The musical score is for the beginning of Beethoven's Sonata in F Minor, Op. 2 No. 1. It is written for piano in F minor (three flats) and 3/4 time. The score shows the first eight measures. The bass staff contains a series of chords, with the first two measures marked with a forte (f) dynamic and the following six measures marked with fortissimo (ff) and sforzando (sfz) dynamics. Pedal markings are indicated by horizontal lines with vertical stems showing the pedal's engagement and release. The first pedal is engaged for the first two measures and released before the third measure. Subsequent pedals are engaged for individual chords in measures 4, 5, 6, 7, and 8.

Staccato pedaling may be used to create an emphasis on single notes, thereby enriching the sound without the use of accents. The following two examples illustrate this use

Example B: Haydn - Sonata in D, Hob. XVI: 37



Example C: Beethoven - Sonata in C Minor, Op. 13, No. 8

Allegro di molto e con brio



## Teaching Unit 8: Portato Pedaling

### Description of Technique

Portato pedaling is named after the Italian term portato, meaning somewhat detached. Portato pedaling refers to the slow release of the damper pedal that permits the sound to fade away gradually. As the sound slowly diminishes it appears to be accompanied by a slight rise in pitch due to the diminishing accumulation of partials. The gradual lessening of sound along with the effect of a change in pitch produce a "rounding off" effect.

### Application When Playing

Portato pedaling is used to enhance articulation and define a portato, non legato, or staccato touch. It is also used to round off the end of a phrase. The activation and release of the damper pedal, when combined with finger technique, can clarify articulation in a way that is not possible by the fingers alone. The damper pedal has the ability to modify the sound even after a note has been played. A slight increase of sound occurs when the pedal is depressed, while a gradual release of sound is possible when the pedal is raised slowly.

Certain restrictions inherent in the use of finger technique alone can be overcome by the use of the damper pedal. One such limitation occurs when notes are released by the fingers without the use of the pedal. If the piano



is properly regulated, an immediate cessation of sound occurs as each note is released. This can produce an abrupt effect that may not be warranted by the music.

Portato pedaling can be especially useful in rounding off the final note or chord of a phrase and in lessening the sound before a rest. A slow release of the pedal can prolong the sound while also diminishing it, thus avoiding the abrupt cessation of sound that occurs when a note or chord is released by the fingers alone.

Notes that are played with a portato or non legato touch can often benefit from the addition of pedal, especially if they are followed by rests. These notes require only brief touches of pedal. The pedal can be used to release the sound gradually, an effect similar to rounding off the final notes of a phrase.

Portato pedaling may be applied to any note or chord that requires a full texture or to those that require a gentle tapering of the sound. Loud, staccato notes or chords may need small amounts of pedal for increased sonority and color. Portato pedaling differs from staccato pedaling which is covered in a separate teaching unit.

### Teaching Procedures

Prerequisite skills. The first requirement for teaching portato pedaling involves the ability to hear the difference between the release of notes and chords that are

pedaled and those that are not. Ask the student to do the following:

1. Begin by playing any chord. Release the chord, and listen carefully to the sound as the dampers mute the strings. The cessation of sound should be uniform and immediate.
2. Play the chord again and depress the pedal fully. While keeping the pedal depressed, lift the fingers from the keys.
3. Lift the damper pedal very slowly. Ask the student to notice the sound gradually fading as the pedal rises. The student should also listen for the slight change of pitch that occurs as the pedal is slowly released.

All the notes should be damped simultaneously by the pedal. If certain tones continue to sound longer than others after the pedal has been released, it is an indication that the pedal mechanism is not properly adjusted.

Timing. Very little time should lapse between lifting the hands and releasing the pedal in this technique. Also, portato pedaling usually must be accomplished quickly within a very brief span of time. The student should practice releasing the notes of the chord and the pedal in a rhythmic manner. Have the student play portato quarter-note chords, and time the release of the notes and the pedal by counting. Ask the student to

1. Play a chord on the first count and depress the pedal.
2. Leaving the pedal down, release the hands on the "and" following the first count.
3. Release the pedal on the second count.

Have the student continue this procedure until the timing becomes almost automatic, and the slight delay between lifting the hands and the pedal can be accomplished before the second count occurs.

### Teaching Examples

Once the student can hear the differences described above and is comfortable with the coordination required between the hands and foot, portato pedaling may be applied to musical examples. The portato chord that appears in the first movement of Beethoven's Sonata Op. 2, No. 2 requires this type of pedaling. The rests allow sufficient time for the sound to clear between the chords. Since the dynamic marking is pianissimo, the una corda pedal should also be employed. Ask the student to do the following:

1. Play the first measure in the example given below. Quickly, but silently, depress the una corda pedal between the first and second measures before playing the pianissimo chords.
2. Play the first portato chord on count "one" and depress the damper pedal.

3. While thinking of a subdivided count, release the fingers on the second subdivision of the first beat.
4. Release the pedal on the "and" of the first count.
5. Repeat the above procedure for each of the four portato chords in the example below.

Example A: Beethoven - Sonata in A, Op. 2, No. 2  
(Allegro vivace)



### Teaching Unit 9: Pedaling to Enhance Phrasing and Articulation

#### Description of Technique

The damper pedal can be used in combination with finger technique to project phrasing and articulation by a careful timing of its activation and release. The slight increase of sound that occurs when the damper pedal is depressed, as well as the gradual release of the sound when the pedal is slowly raised, cannot be accomplished through the fingers alone.

### Application When Playing

The pedal may be used to enhance phrasing and articulation in the following ways: (1) to clarify a phrase, (2) to "round off" the end of a phrase, (3) to define a portato, non legato, or staccato touch, (4) to clarify a tied note, (5) to project a slur, (6) to contrast articulations, and (7) to prolong a phrase through articulations and rests.

Portato pedaling is used to round off the end of a phrase and to define a portato, non legato, or staccato touch. This is covered in a separate unit. However, some overlap among the units cannot be avoided because certain pedaling techniques have characteristics that affect more than one use of the pedals. In these teaching materials, each pedaling technique is placed within the category that most clearly defines its basic function and use.

Certain limitations are always present when a pianist relies on finger technique alone. One such instance occurs with a change of register on the keyboard. In order for a pianist to change from one register to another musically, it is usually necessary to release the notes quickly. This creates a break in the continuity of sound that can obscure the phrasing. Using the pedal not only eliminates unwanted breaks, it also enables the pianist to choose the exact amount of separation between phrases. In other words, it

allows phrasing by choice, rather than phrasing imposed or predetermined as a result of technical limitations.

Another use of the pedal to clarify phrasing can be found when the ending note or chord is the same one that begins a new phrase. This is referred to as "dovetail" phrasing. Or, the last note of one phrase may be tied over to the first note of the new phrase. While it is generally acceptable to retain the same harmony in the pedal throughout, proper attention to phrasing will often preclude this. For instance, a gentle lift of the pedal can create a small break in the melodic or harmonic line and emphasize the phrasing. The pedal can taper the ending of one phrase while giving a tonal emphasis to the other. Coupled with various pianistic techniques such as tone, touch, and *rebato*, the slight break created by lifting the pedal between the two phrases can produce a desirable musical effect.

The application of this type of pedaling requires a knowledge of phrasing. It also involves careful listening to determine how much separation is desired between the two connecting phrases and whether the sound should taper between them.

Although it is not desirable to conclude every phrase with a break in the sound, an occasional breath can delineate the melodic line and add variety. The pedal can blend separate phrases into each other and add another dimension to phrasing that can seldom be achieved by the fingers

alone. The use of the pedal permits one line to be phrased differently from another, and it enables passages with contrasting articulations to be played simultaneously.

The pedal may be used to project a slur in the following ways: (1) define the conclusion of a slur by gently tapering the sound, (2) connect notes within a slur that cannot be sustained by the fingers alone, and (3) achieve rhythmic emphasis within the slur. Frequently the gentle endings of slurs and phrases suggest the use of portato pedal, or a gradual lifting of the pedal at the end of the phrase to diminish the sound gradually.

Pedaling through articulation marks and rests can help define a phrase that otherwise may be obscured. Hearing a particular passage can help to clarify the intended effect, as visual indications may appear to conflict with musical phrasing. For instance, a composer will frequently place a staccato or portato mark over notes that are to be brought out. While it may appear at first glance that such notes are to be played in a detached manner, careful inspection may reveal that these markings refer to touch rather than phrasing.

Likewise, some pieces contain numerous short slurs and rests. Although these markings indicate various forms of touch, such notes and slurs are often part of a larger phrase. If one continuous phrase is intended, considerable pedaling may be required for a musical rendition.

### Teaching Procedures

Because the pedal is applied in slightly different ways to achieve various effects of phrasing and articulation, only a few examples of this type of pedaling are presented here. However, the various forms of pedalings that may be used in applying this technique all contain certain similarities. Therefore, the pedagogical procedures are summarized and presented simultaneously.

Prerequisite skills. Before applying the pedal the student should be able to hear the difference between notes that are pedaled and those that are not. Ask the student to do the following:

1. Begin by playing single notes or chords without using pedal. Next, play a chord and while holding it down depress the damper pedal. Notice that when the pedal is applied the following changes occur: (1) color and richness enhance the tone, and (2) a slight swelling of sound gives the illusion of a crescendo. These changes occur because of the added partials which sound when the dampers are raised fully from the strings. Therefore, the pedal can be useful in giving added emphasis and color to accented notes, to important melodic and harmonic changes, and to notes which are tied.

2. Play a series of repeated chords softly while keeping the pedal depressed. Play each chord at the same

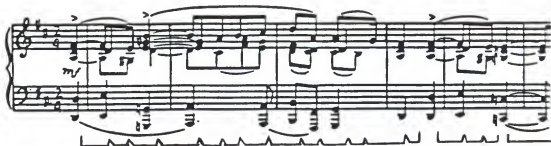


dynamic level. Again notice the accumulation of sound that gives the impression of a crescendo.

The fourth measure of Mendelssohn's Variations contains two repeated chords. The first chord concludes the opening phrase, while the second chord begins the next phrase. A brief lifting of the pedal at the end of the first phrase (between the two repeated chords) can produce a slight break in the melodic line and help delineate the two distinct phrases. On the other hand, no change of pedal in the fourth measure obscures the phrasing and increases the sound at the end of the first phrase rather than allowing it to fade.

Example A: Mendelssohn - "Variations serieuses," Op. 54

Adagio



Preparatory exercises. The student should possess basic skills that include both full and partial pedaling techniques. For instance, it is necessary for the student

to be able to execute correctly basic legato pedaling as well as rapid pedal changes. The student should also have the ability to apply the damper pedal briefly for touches of color, to half-damp or partially depress the pedal, and to execute effectively a slow release of the pedal to taper the sound. Each pedal technique serves a different function in achieving the various effects of phrasing and articulation. Ask the student to

1. Place the right foot on the floor. Keeping the heel on the floor, move the toes up and down. Be aware of the sensation behind the big toe, since this is the one that will be used in pedaling. Vary the speed and vertical height which the toes are allowed to move, and gradually decrease this distance until the motion is barely visible.

2. Place the right foot on the damper pedal, keeping the toes in contact with the pedal and the heel resting comfortably on the floor.

Partial pedaling. Next, have the student differentiate between the amount of pressure required for full and partial pedaling. Ask the student to

1. Depress the pedal fully, using the entire depth of its range. Play any note on the piano and listen to the full sound that is produced when it is caught entirely in the pedal.

2. Play the note again while depressing the pedal. Do not hold the note down with the finger. Release the

pedal slowly, just to the point at which the sound is released. This will be the height above which the pedal should not rise in order to retain the sound. Likewise, this is also the depth to which the pedal must descend in order to sustain the tones.

3. Play a series of repeated chords and connect them by partially depressing the pedal. Practice catching notes and chords in this partial range until it becomes comfortable.

4. Depress the pedal fully and play a chord. Allow the pedal to rise slowly until the tones have ceased. Notice the gentle tapering of sound that is produced by a slow pedal release.

5. Depress the pedal fully and play a chord in the upper register and a low note in the bass register. Allow the pedal to rise partially no more than half the distance of the range determined in the fourth step given above so that all tones are completely retained. Make small, partial changes of pedal, completely retaining the low bass tones but gradually diminishing the overall accumulation of sound.

When the student can successfully complete the above exercises he or she should be ready to transfer this type of pedaling to musical examples similar to those given on the following pages.

### Teaching Examples

The following two examples illustrate pedaling to enhance different aspects of phrasing. In the first example the pedal is used to clarify a tied note; in the second it is used to shape and taper the ending of a phrase. Both involve a modified release of the damper pedal after it has been fully depressed.

#### Example B: Schubert - Sonata Op. 64 (Allegro Vivace)



Pedaling to clarify a tied note. The example above involves a change from a forte to a piano dynamic level along with a tied melody note in the upper voice. It is necessary to have a slight separation in the pedaling between the two phrases because the tied note must continue to sound after the fermata without being overpowered tonally by the lower notes, and the slight pedal separation will clarify the phrasing as two distinct units. Ask the student to do the following:

1. Play the fermata "F's" and depress the pedal fully
2. Make a series of rapid, partial pedal changes without losing the tones, but with enough range to diminish the sound somewhat.

3. Slowly release the pedal at the conclusion of the ferrmata, immediately before beginning the new phrase.

In the following example the dynamic level again changes from a forte to a piano at the end of the fermata. Ask the student to

1. Play the final chord and depress the pedal fully.
2. Keeping the pedal at least three-fourths depressed make a series of slow partial pedal changes. Listen carefully to determine that none of the bass tones are lost.
3. Let the pedal rise a little more and increase the motion of the partial pedal changes. Again listen that none of the tones are lost.
4. Release the pedal slowly.

Example C: Brahms - Rhapsody in G Minor, Op. 79, No. 2



## Teaching Unit 10: Melodic Pedaling

### Description of Technique

Aside from the many specific techniques that exist for the use of the damper pedal, it may be applied to a musical composition in one of two basic ways: harmonically or melodically. Melodic pedaling refers to pedaling primarily those elements that enhance the melodic material. It precludes the use of the damper pedal to treat melodies as harmonic material.

Numerous factors influence the choice of pedaling for a particular melody. Included are such things as the melodic direction, register, tempo, dynamic level, accompaniment, harmony, articulation, phrasing, and style. These elements may conflict with one another occasionally, and at times the importance of one may take precedence over another.

Because of these various considerations in choosing the correct pedaling for a particular melody and because each of these teaching units are concerned primarily with pedagogical procedures, only general guidelines for pedaling various types of melodies are given here.

### Application When Playing

The choice between melodic and harmonic pedaling is often one of style as well as personal preference. In melodic pedaling, the damper pedal is changed as nearly as

possible with each melody note or chord, even though keeping the pedal depressed may not blur the sounds. Changing the pedal in this manner permits the notes to be heard as a melody rather than as merely part of the overall harmony.

Sometimes melodies outline chord structures, as in the example given below. The top notes of the right hand chords are also the melody. To emphasize them as melody notes, melodic pedaling rather than harmonic pedaling is preferable, and the pedal is changed with each chord.

Example A: Schumann - Etudes symphoniques



When a melody and accompaniment are involved, the choice of pedaling is more complex. It then becomes necessary to preserve the clarity of the melodic line and sustain the harmony throughout as well. Pianists must rely on careful listening and "pedal with the ear" rather than the foot.

The range of the melody is another determining factor in the amount of pedal that may be applied. Since there are no dampers in the extreme upper register of the key-

board, an ascending melody beginning in the upper-middle register can be pedaled more heavily than a descending one. In addition, more pedal is needed if the dynamic level increases. A decrease in dynamic level, even in an upper register, will usually require less pedal or more frequent pedal changes. Likewise, a full sonority in a low register will necessitate frequent changes of pedal.

It is difficult to make generalizations about melodic pedaling since each situation is unique. Sometimes it is necessary for the performer to pedal successive measures of a melody differently, especially when the melodic direction changes frequently. It is also necessary to consider the melodic accompaniment. At times the accompaniment allows more liberal use of the pedal than at other times. For instance, a strong supporting accompaniment can benefit by longer pedals to maintain an unbroken harmonic sound, especially if the melody lies in a fairly high register of the keyboard and is separated from the accompaniment by several octaves.

The choice of pedaling for melodic material must be determined by many different factors. However, the most important of these is the ear.

### Teaching Procedures

No special pedaling technique exists for training the student to pedal melodically. If a passage is to be



pedaled melodically it must be determined in advance which melody notes are to be pedaled. Very careful listening is required in performance to be sure the pedal is not depressed too soon, or remains depressed too long.

In melodic pedaling less is usually better than more. Generally, the less pedal used the clearer the melodic concept. If too much pedal is used, the pedaling tends to become more harmonically oriented. Teaching by negative example or by comparing melodic pedaling with harmonic pedaling of the same musical passage can be effective in showing the difference between the two. The following examples illustrate this point. Melodic pedaling, or no pedaling at all provides a more musical rendition and is more compatible with the composer's intent regarding phrasing and articulation.

### Teaching Examples

Incorrect harmonic pedaling. The sixteenth notes do not require pedaling in the example below.

Example B: Beethoven - Sonata in A, Op. 2, No. 2  
(Scherzo)

*Allegretto*

The musical score is for a section of Beethoven's Sonata in A, Op. 2, No. 2 (Scherzo). It is marked 'Allegretto' and begins with a piano (p) dynamic. The music is in 3/4 time with a key signature of two sharps (F# and C#). The score consists of two staves: a treble staff and a bass staff. The treble staff contains several measures of music, including sixteenth-note passages. The bass staff contains a few chords and rests. Pedal marks are shown as horizontal lines with vertical ticks at the beginning and end of phrases, indicating incorrect harmonic pedaling.

Incorrect harmonic pedaling is applied to the example below.

Example C: Beethoven - Sonata in F, Op. 10, No. 2  
(Allegretto)



Pedaling this passage harmonically (even if the pedal were changed often enough so there were no resulting blurs), gives an incorrect rendition of the intended melodic concept.

Melodic pedaling. The following steps are recommended in teaching melodic pedaling in this Beethoven sonata. Ask the student to

1. Study the score and determine which notes are to be treated melodically and which are to be played as part of the harmony.
2. Mark in the score where the pedal is to be depressed and released.
3. Play the passage very slowly with the pedal added, listening for melodic clarity throughout.

Melodic pedaling is illustrated in the example below. More or less pedaling may be required depending upon the choice of fingering.

Example D: Beethoven - Sonata in F, Op. 10, No. 2  
(Allegretto)



Teaching Unit 11: Half Damping

Description of Technique

Half damping refers to the partial release of the damper sound that occurs when the dampers are partially raised from the strings. This is accomplished by depressing the damper pedal only partially down. Various quantities of sound are then retained in the pedal, depending upon how far above the strings the dampers are raised. Half damping is a form of partial pedaling. Partial pedaling differs from full pedaling in that the dampers are never completely raised above the strings.

Partial pedaling. Before half damping can be fully understood and applied, the concept of partial pedaling should be clear. A difference of opinion exists among pianists regarding the various degrees of depth that the pedal can be depressed and still maintain a practical effect on the sound that is produced. Some say there are infinite possibilities, while others prefer to place an exact number on the various levels of the pedal's descent.

For the sake of convenience, three approximate guidelines for partial pedaling are presented and are described as degrees of released pedaled sound. They are: (1) a 25 percent release of pedaled sound, (2) a 50 percent release of pedaled sound, and (3) a 75 percent release of pedaled sound. In relation to a full depression of the pedal, partial pedaling may be diagrammed as follows:

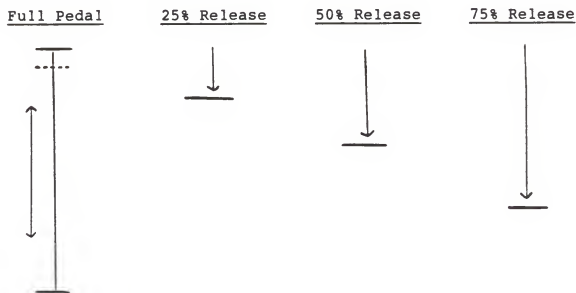


Figure 3-1

Released damper sound. The following descriptions refer to the amount of sound that is released by the dampers, not to the exact distance the pedal is depressed. This is because the two are seldom identical and because pedal actions will vary from one piano to the next.

1. A 25 percent release of pedaled sound occurs when the dampers rest almost completely on the strings. Although this stage of the pedal's descent is sometimes referred to as "quarter pedal," this term can convey the erroneous impression that the pedal is depressed exactly one quarter of the way down. There should be only a very slight amount of foot pressure on the pedal. The exact amount of pressure will vary according to the particular instrument being played.

2. A 50 percent release of pedaled sound occurs when the dampers rest lightly on the strings. Only slightly more foot pressure is required to activate the pedal at this stage.

3. A 75 percent release of pedaled sound occurs when the dampers barely touch the strings.

Comparison to half pedaling. Often the term "half pedaling" is confused with half damping, and the two are used interchangeably. Half pedaling and half damping are not the same thing. The term "half pedaling" is somewhat of a misnomer. It does not refer, as its name would seem to imply, to either a half-way depression of the damper

pedal, or a 50 percent release of pedaled sound. Rather, half pedal is a combination of full pedal and partial pedaling in such a way that allows part of the notes that have been played to be retained in the damper pedal, and the other part to be partially released. Half pedaling is used most often to sustain bass sonorities that cannot be held with the fingers alone. In comparison, half damping partially sustains every tone.

Activation of the dampers. It is important to understand the relationship between the descent of the damper pedal and the activation of the dampers before applying the technique of half damping. It may be helpful to look inside a grand piano to actually see as well as hear what is happening. Most pedal mechanisms contain a certain amount of "play" that allows the damper pedal to be slightly depressed before the dampers actually begin to rise from the strings. Ideally, this area of free play should extend for about an eighth of an inch. If the pedal mechanism is poorly adjusted the dampers may begin to rise instantly once the slightest amount of pressure is applied to the pedal, or the dampers may not begin to leave the strings until the pedal is depressed half way or more. These situations can be very disconcerting when the use of half damping is required.

The area between the point at which the dampers begin to rise and the point at which they fully clear the strings

is the area employed in all forms of partial pedaling. The manner in which the damper pedal is activated within this area results in the various forms of partial pedaling and distinguishes one technique from another.

Descent of the damper pedal. The degrees through which the damper pedal descends may be graphically illustrated by the following diagram:

Height of pedal at rest

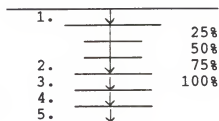
1. Area of free play

2. Range of partial pedaling

3. Dampers clear strings fully

4. Dampers raised higher

5. Maximum descent of pedal



Application When Playing

Determining factors. Half damping can be applied effectively only when the pedal mechanism is adjusted properly. Although pedal adjustments can vary greatly from one instrument to another, an improperly adjusted pedal mechanism will render the application of this technique useless.

Half damping is used when full pedaling would be inappropriate, for instance, when the resulting sound is too thick and unclear. This depends on a number of factors including: (1) the size of the instrument, (2) the desired tone color, and (3) stylistic considerations.

The size of the instrument has a bearing on its sound since the length of the strings varies with the size and length of the piano. What sounds good on one instrument may not always sound equally good on another. The student should feel comfortable enough with this technique that he or she can make any necessary adjustments in pedaling that may be needed during performance.

Functions of released damper sound. Half damping produces a completely different tonal effect than full pedaling. In addition, the differences in the various degrees of released damper sound affect the color and purpose for which each is used.

A 25 percent release of damper sound is effective when (1) the tempo is too rapid to allow a pedal change on every note, (2) flutter pedal would produce too heavy a texture, or (3) a slightly richer tone color is desired to avoid a "dry" sound.

A 50 percent release of damper sound can be used when (1) the harmony is retained but the dynamic level remains soft, (2) a hazy, atmospheric effect is desired, or (3) staccato notes need a slight lengthening.

A 75 percent release of sound is used effectively when rapid musical passages must maintain their clarity in a full, resonant sonority.



### Teaching Procedures

Preparatory exercises. It is important to make a distinction among the various degrees of half damping by sight, feel, and careful listening. Before applying this technique the student should be able to (1) define the amount of free play in the damper pedal, (2) distinguish the point at which the tones first begin to be caught in the pedal, and (3) determine the point at which the dampers are fully raised from the strings.

Have the student stand in order to observe what is happening to the dampers inside the piano. Ask the student to do the following:

1. Slowly depress the damper pedal. Notice the small amount of foot pressure that can be applied before the dampers begin to move. This is the area of free play.

2. Continue slowly depressing the pedal until the dampers rise just above the strings. Practice depressing the pedal while remaining within these two boundaries.

Positioning the foot. The sensitivity required in half damping is accomplished primarily by pedaling behind the ball of the big toe. Therefore, it is important to position the foot correctly before this technique can be applied accurately. Ask the student to

1. Place the right foot on the pedal so that the ball of the foot behind the big toe rests comfortably on the front portion of the damper pedal. The foot should face

forward and not be turned outward or inward to either side. The heel should remain in contact with the floor, and the toes should remain in contact with the pedal at all times.

2. Place the left foot slightly closer to the bench so that it is possible to stand without using the hands or moving the feet. This position helps to balance the body and maintain correct body alignment.

The amount of pressure applied to the pedal, which in turn affects the height of the dampers above the strings, will determine the percentage of pedaled sound that is released. The student should learn to gauge this distance by feel. To do this it is necessary to determine the height and depth of the pedal's range that is used in half damping.

Comparison with full pedaling. One approach is to compare the various degrees of half damping with full pedaling. It can be helpful for the student to feel the difference between the amount of pressure required between full and partial pedaling, since the tendency to depress the pedal more than is necessary often causes unintentional pedal blurs. Ask the student to

1. Play any chord and depress the pedal fully. Release the chord. Listen to the full sound that is retained when the dampers are fully released from the strings.

2. Gradually let the pedal rise just to the point at which the sound is released. This will be the height above which the pedal should not ascend when employing the various forms of half damping.

3. Continue to play chords while depressing the pedal fully, but experiment with the amount of released damper sound by slowly and carefully controlling the height that the pedal is allowed to ascend.

Half damping. Have the student reverse the above procedures to determine the distance that the pedal can be depressed to hold the chord with varying degrees of released damper sound. This process relies heavily on good listening skills. Ask the student to

1. Play a chord and hold it. Depress the damper pedal very slowly to the point where the tones are barely caught by the pedal. Release the chord completely with the fingers. This is the area of a 25 percent release of damper sound.

2. Play the chord again. Depress the pedal a little more deeply so that the tones of the chord are all definitely held by the pedal, but the texture still remains thin. This depth of the pedal's descent allows a 50 percent release of damper sound.

3. Play the chord once again. Depress the pedal still further than before, but not to the point of its full descent. The chord should sound full, but not as resonant

at this stage of the pedal's descent as it would if full pedal were used.

Have the student vary the register and dynamic level of the chords that are played. Less pressure may be needed to sustain notes played loudly in the bass register than those played very softly in the treble.

It is recommended that the student repeat the preceding three steps using any scale or five note finger pattern in place of the chord. Half damping is required frequently for both scale passages and chords, and some students may respond better aurally to one rather than another.

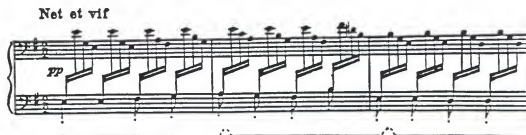
#### Teaching Examples

The student should now be ready to apply the concept of half damping to musical examples. Pedal actions can vary greatly from one instrument to another. This makes it impossible to predict the exact amount of sound that will result when the damper pedal is partially depressed, especially when performing on an unfamiliar instrument. However, the desired amount of released damper sound should be determined in advance and not be left to happenstance.

Fifty percent release of pedaled sound. Full pedaling cannot be used in this example because the delicate lines and texture of this piece would be obscured. Yet, without any pedal this passage would be too dry, lack tonal color,

and the harmonies would not blend together to create an impressionistic effect. Therefore, some form of half damping is required. An approximate 50 percent release of pedaled sound is suggested because of the soft dynamic level.

Example A: Debussy - Jardins sous la pluie



Teaching Unit 12: Pedal Vibrato

Description of Technique

Pedal vibrato, or vibrato pedaling, refers to the rapid motion of the pedal that permits the dampers to come partially in contact with the strings in such a way that neither a full vibration of the strings nor a complete damping of the sound will occur. This is accomplished by using only a partial range of the pedal's full depth and not allowing the pedal ever to be fully depressed nor completely released.

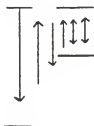
A distinction needs to be made between pedal vibrato and flutter pedaling. Whereas both refer to a rapid, rather shallow motion of the pedal, pedal vibrato differs from flutter pedaling in three ways: (1) the depth to which the pedal is initially depressed, (2) the range in which the pedal is vibrated, and (3) the purpose for which it is used.

In comparison with the actual depth of the pedal's full range, pedal vibrato and flutter pedaling may be diagrammed as follows:

Full Range



Pedal Vibrato



Flutter Pedaling



Figure 3-2

The remaining portion of this unit is concerned with pedal vibrato only. Flutter pedaling is presented in a separate teaching unit.

Application When Playing

One use of this technique is to achieve a rapid diminuendo of the tone. When applied at the end of a

pianissimo section, the tone seems to disappear, and the musical result is very effective. Pedal vibrato is often used in conjunction with other pedaling techniques, especially pedal diminuendo.

When properly employed, pedal vibrato can project a feeling of continuity and create a mood of unbroken stillness by giving the impression of a tonal evaporation of the sound. For this use, it is best employed in the concluding passages of a movement or a piece where nothing will follow which can detract from its use. Its effect is similar to that created when two people want to prolong a parting touch, and can be compared to holding hands or a gentle stroke on the arm. Rather than an abrupt release, if two people gradually diminish contact by slowly lessening the pressure between them so that only a very gentle touch remains before their fingertips finally part, the effect is that of almost not being aware of when contact ceased to exist.

No extraneous motion should interfere with this technique, either in the hands or the feet of the pianist. All movements should be kept to a minimum, with care being taken not to interrupt the mood by prematurely releasing the hands on the keys or removing the foot from the pedal. As the tone is about to disappear, the motion of the pedal should become almost imperceptible and gradually cease. The hands and body should remain in place until after the

sound has faded completely. The amount of time allowed to prolong this effect is at the discretion of the performer.

Pedal vibrato employs a deep initial descent in order to catch all the notes. After several deep, rather slow vibrations, the pedal vibrations gradually become more shallow and rapid, utilizing the upper half of the pedal's range. As the tone begins to fade, the vibrations accordingly become slower and less pronounced, eventually stopping altogether.

#### Teaching Procedures

Preparatory exercises. Before using the pedal, have the student practice tapping the toes of the right foot on the floor, moving just the toes and not the entire foot. Ask the student to do the following:

1. Rapidly move the toes, being aware of the sensation behind the big toe, since this is the one that will be used in pedaling.
2. Move the toes very slowly with the intention of pressing down on the big toe, then relaxing to let it come back up. (This is important since some students will have a tendency to try to pull the toe up.)
3. Become aware of the sensations in the leg. The muscles should not feel tight in any way. Unless they are relaxed they will quickly tire, discouraging use of this technique.



Positioning the feet. Have the student place the right foot on the damper pedal and repeat the above procedures. Check the position of the student's feet for proper body alignment and balance. Ask the student to

1. Position the right foot squarely on the damper pedal so that it is facing forward and not turned outward or inward to either side. The pedal should rest comfortably behind the big toe.

2. Position the left foot closer to the bench in such a way that it is possible to stand up comfortably without using the hands or moving the feet.

As the student depresses the pedal, check to make sure that the heel remains in contact with the floor at all times and the toes remain in contact with the pedal so that they do not "tap" it from above.

Pedal vibrato. Have the student determine the amount of pedal that will be used for pedal vibrato by comparing the above sensations with that of full pedaling. Ask the student to do the following:

1. Depress the pedal fully, using the entire depth and height of the range. Then, play any note on the piano and listen to the full sound that is produced when it is caught entirely in the pedal.

2. Play the note again while depressing the pedal, but do not hold the note with the fingers. Release the pedal slowly just to the point at which the sound is

released. This will be the height above which the pedal should not rise when employing pedal vibrato.

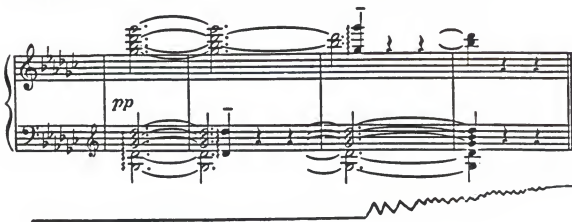
Have the student practice catching notes in the pedal using this partial range until it becomes comfortable. Then ask the student to vibrate the pedal.

3. Experiment with pedal vibrato on various notes by varying the rate of speed and the depth of the pedal's descent. Listen closely to the tones as they fade so the desired effect may be obtained.

#### Teaching Example

In the following example, pedal vibrato can be used to diminish the sound at the end of the piece. Because the marking is pianissimo, the una corda pedal should also be employed. Care should be taken in this example not to vibrate the pedal so deeply at first that the bass will be lost. It is important to retain the full sonorities for as long as possible.

#### Example A: Debussy - "La fille aux cheveux de lin"



### Teaching Unit 13: Pedal Diminuendo

#### Description of Technique

Pedal diminuendo refers to the gentle ascent of the damper pedal coupled with partial pedaling to produce a gradual lessening of sound. These very small changes of pedal gradually release the dampers partially from the strings. The result is a diminuendo produced by the pedal. Because the diminuendo concludes at a pianissimo level this technique is most often used in combination with the una corda pedal.

Pedal diminuendo is accomplished by using a combination of full and partial pedaling. Depending upon the desired effect, this technique may also involve half-pedaling and flutter pedaling. Its use in combination with these two techniques is presented in other teaching units.

#### Application When Playing

One use of pedal diminuendo is to produce a smooth transition in a passage that makes a diminuendo while moving from a low bass register to an upper register. It is most effective when the music fades dramatically from a full sonority to a pianissimo on a single note. If left to finger technique alone, the sound may not diminish rapidly enough. In addition, the accumulated sounds that occur if the pedal remains depressed throughout can inadvertently cause an unwanted crescendo.

In pedal diminuendo the sound is never abruptly lost. All sonorities of the original tones should continue to sound almost to the end of the diminuendo.

Pedal diminuendo relies heavily on a good ear and keen listening skills. How much of the initial tone is to be retained depends on the texture of the music. In some passages the diminuendo extends to a single note, while in others there is merely a change in register or dynamics. Factors over which the pianist has no control may also influence the application of this technique. Each individual piano has its own unique tonal capabilities. In addition, pedal mechanisms vary slightly from one piano to the next, requiring different amounts of pressure to activate the pedals. This means that the amount of tone that is retained will vary according to each individual piano. It will be noticeably easier to retain the bass notes on some pianos than on others. Also, the vertical height and depth of the pedal's range may vary.

It is suggested that the student practice this technique on several different pianos.

### Teaching Procedures

Pedal diminuendo is more complex than many of the other pedaling techniques because it combines several techniques. Prior to attempting such pedaling, the student should be able to: (1) pedal behind the big toe, (2) coordinate both feet to operate independently two pedals

simultaneously, (3) make a difference between full and partial pedaling, and (4) correctly employ the use of both these pedaling skills.

Preparatory exercises. Prior to teaching pedal diminuendo ask the student to do the following:

1. Place the right foot on the floor. Keeping the heel on the floor, move the toes up and down. Be aware of the sensation behind the big toe, since this is the one that will be used in pedaling. Vary the speed and vertical height that the toes are allowed to move. Gradually decrease this distance until the motion is barely visible.

2. Contrast this correct motion with moving the entire front portion of the foot up and down. Although the heel still remains on the floor, ask the student to notice the difference in the muscles that are involved. The incorrect procedure utilizes the larger muscles of the entire foot and calf of the leg. But pedaling just behind the toe involves predominantly the toe muscles. Moving just the toes allows for much greater sensitivity and agility.

3. Transfer these procedures to the damper pedal. Check to be sure that the toes remain in contact with the pedal, and the heel rests comfortably on the floor. Notice the tendency to "hit" the pedal (which is audible) when the incorrect procedure is used.

Teaching procedures for pedal diminuendo. To learn this technique ask the student to do the following:

1. Make a difference between the amount of pressure required for full and partial pedaling. This should be achieved by pedaling behind the big toe rather than with the entire foot.

A. Depress the pedal fully, using the entire depth of the range. Play any note on the piano and listen to the full sound that is produced when it is caught entirely in the pedal.

B. Play the note again while depressing the pedal. Do not hold the note down with the finger. Release the pedal slowly, just to the point at which the sound is released. This will be the height above which the pedal should not rise to retain all the notes.

2. Using both hands, play chords that encompass the bass and treble registers of the piano. Practice catching these chords in the pedal without holding the keys down in the hands. Use a deep initial descent of the pedal, then let the pedal gradually rise. As it rises, move the toes up and down very slightly. Listen carefully to the sound that is being produced. It is important that all of the notes are retained in the pedal.

The next two steps rely heavily on careful listening. Ask the student to do the following:

3. Repeat the above procedure. Listen to the texture of the sound to determine if it is too thick or too thin. It is too thick if the initial sound is fully retained so

that no change occurs as a result of using the pedal. It is too thin if the bass notes have been lost. The entire harmony should remain caught in the pedal. If the bass sounds are lost, the ascent of the pedal was too rapid and abrupt. The pedal should slowly rise, but it should not come all the way up.

Have the student practice making a pedal diminuendo that fades away into silence. Ask the student to

4. Repeat the above procedures, but rely on careful listening at the conclusion of the sounds to determine how much of the sonorities should be lost or retained at any given moment. It is important to retain the bass harmonies throughout the application of this technique. There should be no obvious break in the continuity of sound.

### Teaching Example

In the following example, the pedal diminuendo fades into a single sonority. Depending on the amount of sound remaining in the pedal, it may be necessary for the pianist to vibrate the pedal a little when the last two notes are played.

Example A: Debussy - Arabesque No.1 in E



## Teaching Unit 14: Half Pedaling

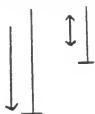
### Description of Technique

Half pedaling (or half pedal), refers to the combination of full and partial pedaling that allows part of the notes that have been played to be retained in the damper pedal and the other part to be partially released. The notes that are held are usually in the bass clef, while those that are partially cleared are higher in pitch.

A distinction should be made between half pedaling and half damping, because the two terms are often inaccurately used interchangeably. Actually, the term half pedaling is somewhat of a misnomer. It does not refer, as its name implies, to the half-way depression of the damper pedal or a 50 percent release of the dampers above the strings. These terms describe half damping. Instead, half pedaling is, in effect, catching and retaining only those sounds on half or a portion of the keyboard.

The diagram below compares the action of the damper pedal in half pedaling and half damping.

#### Half Pedaling



#### Half Damping

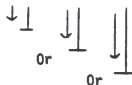


Figure 3-3



The remaining portion of this section is concerned with half pedaling. Half damping is covered in a separate unit.

#### Application When Playing

Half pedaling is most often used to sustain a bass sonority that cannot be sustained by the fingers alone. This occurs when the bass is carried over as a pedal point into the next harmony while the left hand is occupied playing other notes.

One use of this technique is to emphasize and prolong the notes of a supporting bass line, while the upper notes of the melody move freely. A bass line that is sustained by full pedal alone, without concern for the changing notes in the melody in the upper parts, usually results in unclear, muddy pedaling. Since the upper notes may deviate from the bass harmony, some degree of pedaling is necessary to keep all the sounds from blurring together.

A composer often indicates that the bass is to be stressed by double stemming the important harmonic notes if they have the same time value, or by lengthening their duration. The degree of emphasis affects the choice of pedaling.

Half pedaling is also used when various chord changes occur over a sustained bass pattern. This is somewhat more difficult to execute, unless the chords are in the upper

register of the keyboard. It is easier to clear the harmonies in the upper register, since there are no dampers in the extreme upper range. Activating the damper pedal only catches the partials that are sounding in sympathetic vibration.

The effectiveness of half pedaling decreases as more chords are played over the original bass. It becomes less effective as the dynamic level increases, especially if a number of chords are played in succession. Also, the closer the chords lie to the middle range of the keyboard, the more difficult it becomes to clear the sounds adequately. Therefore, half pedaling is not effectively used in the bass and middle ranges of the piano exclusively. It requires sufficient separation between the bass and upper parts.

### Teaching Procedures

Preparatory exercises. Since half pedaling involves the use of both full and partial pedaling, it is essential that the student be aware of the differences between these two techniques and be able to execute them correctly. Prior to teaching half pedaling it may be helpful to review with the student some basic preliminary exercises. These are the same procedures that can be used before teaching pedal diminuendo. Ask the student to do the following:

1. Place the right foot on the floor. Keeping the heel on the floor, move the toes up and down. Be aware of the sensation behind the big toe, since this is the one that will be used in pedaling. Vary the speed and vertical height which the toes are allowed to move. Gradually decrease this distance until the motion is barely visible.

2. Contrast this motion with the incorrect motion of moving the entire front portion of the foot up and down. Although the heel still remains on the floor, ask the student to notice the difference in the muscles which are involved. The incorrect procedure utilizes the larger muscles of the entire foot and calf of the leg. Pedaling just behind the toes involves predominantly the smaller toe muscles. It should become obvious that moving just the toes allows for much greater sensitivity and agility.

3. Transfer these procedures to the damper pedal. Check to be sure that the toes remain in contact with the pedal and the heel rests comfortably on the floor. Notice the tendency to audibly "hit" the pedal when the incorrect procedure is used.

Full and partial pedaling. The student is now ready to learn the techniques associated with full and partial pedaling. Ask the student to

1. Differentiate between the amount of pressure required for full and partial pedaling. Do this while pedaling behind the big toe rather than the entire foot.

A. Depress the pedal fully, using the entire depth of the range. Play any note on the piano and listen to the full sound that is produced when it is caught entirely in the pedal.

B. Play the note again while depressing the pedal. Do not hold the note down with the finger. Release the pedal slowly just to the point at which the sound is released. This will be the height above which the pedal should not rise to retain all the notes.

2. Using both hands, play chords that encompass the bass and treble registers of the keyboard. Practice catching these chords in the pedal without holding the keys down in the hands. Use a deep initial descent of the pedal, then let the pedal gradually rise. As it rises, move the toes up and down very slightly. Listen carefully to the sound that is being produced. It is important that all of the notes are retained in the pedal.

The next two steps rely on careful listening.

3. Repeat the above procedure and listen to the texture of the sound to determine if it is too thick or too thin. It is too thick if the initial sound is retained entirely so that no change occurs as a result of using the pedal. It is too thin if the bass notes cease to sound. The entire harmony should remain in the pedal. If the bass notes are lost, this indicates that the ascent of the pedal

was too rapid and abrupt. The pedal should slowly rise, but should not come all the way up.

Half pedaling. At this point the student should have the technical skill to combine full and partial pedaling to achieve half pedal. Ask the student to

1. Play two low notes an octave apart and catch them in the pedal. Using both hands, play an octave softly in the upper register of the keyboard. Partially change the pedal after the octave so that the sound is cleared while the bass is retained.

2. Play the low bass octave again and catch it in the pedal. Increase the number of octaves played in the treble to four. After each octave is played, partially change the pedal so that the sound is cleared while still retaining the bass in the original pedal.

3. Repeat the above procedures, moving closer to the middle range of the keyboard. Gradually increase the dynamic level of the octaves.

Have the student apply the preceding procedures to chords above the original bass rather than single octaves. Ask the student to do the following:

4. Play a low octave in the bass and catch it in the pedal. Using both hands, play a chord softly in the extreme upper register of the piano. Partially change the pedal after the chord so that the upper notes are cleared while the bass notes are retained. Increase the number of

chords played to four above the original bass, while changing the pedal after each chord.

5. Repeat the procedure moving closer to the middle range of the keyboard. Gradually increase the dynamic level of the chords until at least a mezzo-forte can be reached and the chord changes remain clean.

### Teaching Example

Apply the above principles to the following example.

#### Example A: Debussy - Clair de lune

The musical score for Debussy's *Clair de lune* is shown in a piano (pp) section. The tempo is marked *Tempo rubato*. The score consists of a treble and a bass staff. A large bracket is placed over the treble staff, indicating a single pedal point. The bass staff has a *pp* dynamic marking. The treble staff has a *Tempo rubato* marking. The bass staff has a *2* marking. The score includes a diagram of a piano keyboard with a dashed line indicating the pedal point.

It is generally not necessary to change the pedal immediately after the first few chords in the treble have been played. The fact that the bass is to be retained as a pedal is an indication that some dissonance will probably occur. How soon half pedaling is employed after playing the bass is a matter of personal preference. It is influenced by such variables as the dynamic level of the music, stylistic factors, and resonance of the instrument.

## Teaching Unit 15: Flutter Pedaling

### Description of Technique

Flutter pedaling refers to the very fast, shallow motion of the damper pedal that allows the dampers to gently touch then release the strings in rapid succession. Only a small portion of the pedal's range is used so that the pedal is never fully depressed or completely released.

Comparison to pedal vibrato. Flutter pedaling is similar to pedal vibrato. Both techniques are a form of partial pedaling that involve a rapid motion of the damper pedal. But flutter pedaling differs from pedal vibrato regarding (1) the initial depth of the pedal's descent, (2) the range in which the pedal is vibrated, (3) the speed of the vibrato, and (4) the purpose for which it is used.

The following diagram is a comparison of flutter pedaling and pedal vibrato in relation to the depth of the pedal's full range.

#### Full Range



#### Flutter Pedaling



#### Pedal Vibrato

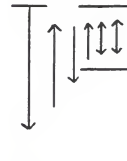


Figure 3-4

Pedal vibrato employs a deep initial descent of the pedal that becomes progressively more and more shallow. The speed of the vibrations eventually cease altogether. Flutter pedaling, however, maintains a more or less constant rate of vibration throughout. The vibrations generally are contained within the same range of depth.

The remaining portion of this unit is concerned with flutter pedaling only. Pedal vibrato is covered in a separate teaching unit.

#### Application When Playing

Flutter pedaling is very effective in adding color and a fuller sonority to fast scale passages. When the dynamic marking is forte, this type of pedaling can help create a brilliant effect without obscuring the clarity of the line. It can also add color while maintaining the continuity of the sound, since no noticeable pedal changes occur when this technique is properly employed. In a pianissimo passage (especially one where the harmonies seem to avoid a cadence), flutter pedaling can be used to create an almost eerie effect.

The depth of the pedal's descent and the rate of vibration depend on the amount of tone that is to be retained by the pedal. This is influenced by the dynamic level and tempo of the piece, as well as the range in which flutter pedaling is employed. Bass notes are more resonant



than those in the treble, and the tones take longer to fade. Therefore, when flutter pedaling is applied to a forte bass run, the depth of the pedal's descent should be rather shallow, and the rate of the small pedal changes should be quite rapid. When flutter pedaling is applied to runs in the treble or when the dynamic level of the passage is quite soft, a greater depth of the pedal's range can be employed, and the pedal vibrations do not need to be as fast.

The application of flutter pedaling is generally left to the discretion of the pianist. Composers will sometimes indicate its use such as in the first movement of the Barber Piano Concerto, but such instances are uncommon.

### Teaching Procedures

Preparatory exercises. Flutter pedaling is accomplished by rapidly moving the toes up and down rather than the entire foot. It is important that the student grasp the feel of pedaling behind the big toe correctly to avoid creating tension in these muscles. Have the student practice tapping the toes of the right foot on the floor, moving just the toes and not the entire foot. Ask the student to do the following:

1. Place the right foot on the floor behind the damper pedal. Using the ball of the foot as a pivot, rapidly move the toes up and down. Be aware of the

sensation behind the big toe and the movement in these small muscles.

2. Now move the toes very slowly with the intention of pressing down on the big toe and relaxing to let it come back up. (Some students may have a tendency to try to pull the toes up, but this can create tension).

Ask the student to be aware of the sensations in the leg. The muscles should feel relaxed and not tight in any way. Unless they are relaxed they will quickly tire, discouraging use of this technique.

Positioning the feet. Have the student place the right foot on the damper pedal and repeat the above procedures. Ask the student to

1. Position the right foot on the damper pedal so that the ball of the foot rests comfortably on the front portion of the pedal. The foot should face forward, and not be turned outward or inward to either side. The heel should remain in contact with the floor, and the toes should remain in contact with the pedal at all times.

2. Place the left foot somewhat closer to the bench so that it is possible to stand without using the hands or moving the feet. This position helps to balance the body and maintain correct body alignment.

3. Using the ball of the foot as a pivot, rapidly move the toes up and down. Strive to reduce any mechanical noise in operating the pedal.

Flutter pedaling can be introduced once the student has grasped the concept of pedaling behind the big toe. Since flutter pedaling uses only a partial range of the pedal's actual depth, it is necessary for the student to determine the relative depth of the pedal's descent that is used in employing this technique. Flutter pedaling can be introduced by sight, feel, and careful listening.

Visual observation and tactile sensations. Have the student stand and observe the movement of the dampers inside a grand piano. Ask the student to do the following:

1. Watch the movement of the dampers while slowly depressing the pedal. Notice the amount of foot pressure that can be applied before the dampers begin to move. This is called the area of free play. Activation of the pedal in this area will not affect the sound.

2. Increase the amount of pressure until the dampers rise just above the strings. Flutter pedaling uses the range between the area of free play and the point at which the dampers clear the strings.

3. Vibrate the pedal within this defined range, making sure that the pedal is always silently depressed and released. Vary the speed of the vibrations.

Have the student sit at the keyboard and practice vibrating the pedal in order to gauge the correct amount of foot pressure that is required for this technique.

Addition of listening skills. Ask the student to remain standing in front of the keyboard and do the following:

1. Play a chord and hold it.
2. Depress the damper pedal very slowly to the point where the notes are barely retained in the pedal.
3. Release the chord completely with the fingers.  
(If the sound is accidentally lost, have the student repeat the chord as often as necessary but do not hold it in the hands.)
4. Look inside the piano while listening to the chord that has been played to aurally and visually determine the area that is used in flutter pedaling.
5. Play the chord again. Depress the damper pedal a little more fully so that all the notes of the chord are definitely retained in the pedal.
6. Look inside the piano again while listening to the chord to determine the full extent of the area that is used in flutter pedaling.

Vibrating the pedal. Have the student sit at the keyboard and play a chord. Ask the student to depress the pedal to the point where all the notes are retained, then slowly vibrate the pedal. Then ask the student to

1. Listen carefully to the pedal vibrations. Try to maintain an even rate of speed.

2. Keep the level of depth constant when vibrating the pedal.

3. Listen to determine that all the notes in the chord are retained as the pedal is vibrated and that the chord itself is not suddenly lost.

Have the student continue to play chords while varying the dynamic level, the rate of vibrato in the pedal, and the range in which the chords are played.

Flutter pedaling. When the student is comfortable with the above procedures, flutter pedaling can be applied to runs or scalar passages. Ask the student to

1. Rapidly play a two octave ascending and descending scale in the treble range of the keyboard at a soft dynamic level. As the scale is played, flutter the pedal using an appropriate depth that allows the clarity of the scale to be maintained.

2. Continue playing the scale but gradually increase the dynamic level. Notice that as the dynamic level increases, the motions of the pedal must become more rapid and shallow in order to maintain the clarity of the scale.

3. Play the scale in various octaves throughout the entire keyboard at different dynamic levels. Again, notice the varying amounts of pressure on the pedal that are required to maintain clarity as the dynamic level and range constantly change.

### Teaching Example

The student should now be capable of applying these concepts to examples found in the literature.

#### Example A: Chopin - Etude in C# Minor, Op. 25, No. 7



### Teaching Unit 16: Pedaling for Dynamic Effects

#### Description of Technique

One of the primary functions of the damper pedal is to enhance tone quality. When the damper pedal is depressed, the dampers are raised above the strings. This creates sympathetic vibrations of the partials in the strings surrounding those that are struck by the hammers. The sound is affected in two ways: (1) The dynamic level increases slightly, and (2) the tone becomes richer. The degree to which the sound changes depends on how far above the strings the dampers are raised. The higher they are raised, the more noticeable the change in sound.

In addition to being called the "sustaining pedal," the damper pedal is frequently referred to as the "loud pedal" or "forte pedal." These two names reflect the importance of the damper pedal in enriching the quality of the sound. Although the dampers do not extend the entire length of the keyboard (stopping at approximately the highest octave and a half), the use of the pedal allows sympathetic partials to vibrate in the strings below the pitch sounded.

#### Application When Playing

At times, the style or context of the piece appears to suggest that the fingers alone cannot effectively create the desired dynamic effect. This may happen for a number of reasons including technical, mechanical, and musical considerations. A pianist with small hands, for instance, may not have the power to execute rapid runs with the strength required in a fortissimo passage. The piano itself may not have sufficient resonance to project the tone effectively, or, conversely, it may be too "live." Sometimes a particular passage seems too dry without the color that the damper pedal can provide. At other times, all the resources of the piano may be needed to create the intended effect as, for example, in a piano concerto when the solo piano must answer the entire orchestra.

The damper pedal may be used in the following ways to enhance dynamics: (1) create an accent, (2) crescendo, (3) diminuendo, (4) rapidly lose the sound on a sustained note or chord, (5) create forte-piano effects, and (6) create echo effects. In addition, the technique of pre-pedaling is predominantly used for its dynamic and tonal effects. Pre-pedaling, pedaling as a means of accentuation, and pedaling to create a long diminuendo are covered in other units and, therefore, they will not be discussed here.

Composers sometimes indicate a slight increase of tone on a single note or chord that is tied. Once a note has been played on the piano, it is not possible to change the tone by means of touch alone. Depressing the damper pedal will accumulate additional partials and give the effect of a slight crescendo. Even when a single note is repeated, the pedal can be very effective in building the amount of sound.

Frequently a crescendo is indicated in passages comprised of numerous fast moving notes such as tremolos, glissandos, and scales. The damper pedal can be particularly effective when applied to ascending scale passages, and it can create a brilliant effect in glissandos and upward runs. The damper pedal can be applied either in short bursts or with an increasing depth to control the release of sound. The amount of pedal used depends on the dynamic level and the register of the keyboard. If the



register is high, the pedal may be held throughout the entire run for added sonority. Runs that descend usually require considerably less pedal, as well as very careful listening by the pianist.

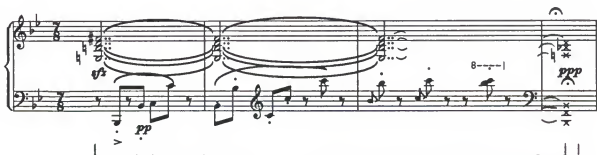
In contrast to the slow damper release that is used to produce a pedal diminuendo, the damper pedal may be used to diminish the sound rapidly after a single note or chord has been played. There are times when it is necessary to damp the sound, even though a diminuendo is not marked in the music or the composer has indicated that the damper pedal should remain depressed throughout. Care must be taken not to cover soft sounds that occur immediately following a loud or strongly accented chord. Because of the resonance of contemporary grand pianos, a sudden change from a loud to a soft dynamic level in the music usually necessitates a separation between the sounds. This is accomplished either through a combination of full pedal and half pedal, whereby a reduction to half pedal on the softer sonorities enables the tones to be heard more clearly, or by a very quick release of the pedal after a loud or strongly accented chord.

Likewise, a forte-piano indication for a sustained single note or chord is possible on contemporary grand pianos only through the use of the damper pedal. The rapid lessening of sound that occurred on early pianos after a note had been played enabled the sound from a forte attack to fade gradually to a piano without further help from the

pianist. This is no longer possible because of the much greater resonance of today's pianos. In fact, on most instruments of Beethoven's time, it would have been very difficult to make a forte-piano effect relying solely on the damper pedal alone.

The term echo pedaling refers to the sound that occurs when notes that have been previously pedaled are silently depressed before being pedaled again. Redepressing the keys creates a very soft sound, which gives the effect of an echo. Composers will sometimes specifically ask for this technique, as in the following example from Britten's Night-Piece. In reference to the notes which are to be depressed silently in the last measure, Britten states: "These notes should be silently pressed down before the pedal is released."

Example A: Britten - "Notturmo"



### Teaching Procedures

Forte-piano effects. At least three means of achieving a forte-piano effect are possible on the contemporary grand piano. Two of these involve the use of the damper pedal, while the third is accomplished by voicing and dynamics alone. Teaching procedures for achieving a forte-piano with the damper pedal using both techniques are presented here.

The simplest means of executing a forte-piano chord involves a combination of full and partial pedaling. Prior to teaching this technique, however, the student should understand the difference between these two types of pedaling and be able to execute them successfully. Full and partial pedaling techniques are presented and contrasted in other teaching units, for instance, half-damping, half-pedaling, pedal vibrato, and pedal diminuendo. Consequently, they are not covered here.

In the opening three measures of the Grave Introduction of the Sonata in C Minor, Op. 13 No. 8, Beethoven indicates three forte-piano chords. It is doubtful that Beethoven intended for these chords to be played using forte-piano pedal techniques. In fact, since the sonata was published in 1799, this type of pedaling would have been extremely difficult to execute on pianos of that time. Rather, a sudden lessening of tone occurred naturally after the initial attack of a note or chord. When forte-piano

chords are performed on contemporary grand pianos, however, the resonance of the instrument does not allow sufficient time for the tone to diminish without the use of the damper pedal.

First procedure for teaching a forte-piano effect. To teach the simplest means of achieving a forte-piano in this piece ask the student to do the following:

1. Play the opening chord forte as indicated. At the same time fully depress the damper pedal.

2. Immediately release the notes, but do not lift the pedal. The hands should remain in contact with the keys for the duration of the tied quarter note chord.

3. Using a series of partial pedal changes allow the dampers to brush the strings lightly several times, so that the sound becomes progressively softer.

- A. Listen carefully to the sound to be sure that the full chord is retained in the pedal. The partial pedal changes should always produce an even damping of the sound. Sudden damping of the tones at any given moment is to be avoided.

- B. Depending upon the register, it may be necessary to vary the depth that the pedal is depressed in the series of partial pedalings. Since it takes more time for the sound to desist in a low register, the initial partial changes of the pedal should vary correspondingly.

Example B: Beethoven - Sonata in C m, Op. 13, No. 8

Written



Played



Second procedure for teaching a forte-piano effect.

The same Beethoven sonata can be used to illustrate the second means of executing a forte-piano. This technique involves more complex timing between the hands and the foot. It also involves the concept of staccato within a legato texture. However, it enables a much sharper accent to be heard on the initial chord, which creates a greater dynamic contrast between the forte and piano. To execute this technique ask the student to

1. Pre-pedal by silently depressing the damper pedal fully.

2. Play the opening chord forte and staccato. At the exact moment the chord is played, release the pedal.

3. Immediately depress the notes of the chord again silently, just far enough to raise the dampers without allowing the hammers to strike the strings audibly. Listen carefully to avoid the following inaccuracies:

A. If the keys are depressed too far, the chord will sound again.

B. If the keys are not depressed again quickly enough, the entire sound will be lost.

4. Redepress the damper pedal fully.

Example C: Beethoven - Sonata in C m, Op. 13, No. 8

Written



Played



## Teaching Unit 17: Pedal Blurring for Color and Special Effects

### Description of Technique

The damper pedal may be applied in a way that creates a deliberate blurring of the tones. When used discriminately in this manner, pedal blurring can enhance tonal color and create special effects.

Pedal blurring is effective in a variety of situations, including: (1) cadenza figurations, (2) whole tone and pentatonic scales, (3) ostinato patterns, and (4) other special effects. In addition, pedal blurring is sometimes indicated in the musical score by the composer.

### Application When Playing

Function. Using the damper pedal to deliberately create a blur is directly opposed to its use in nearly every other situation. Through a variety of pedaling techniques, the pianist has many options from which to choose pedaling that will enhance the clarity of a musical passage. Some of these same techniques can also be used to create pedal blurring. The difference between pedaling for clarity and blurring the pedal is the degree to which the pedal is applied and the length of time it remains depressed.

Ignorance of correct pedaling techniques is never an excuse to blur the pedal; the pedal must always be applied

in an artistic manner. Pedal blurring is a unique technique that calls for a discriminating use of the damper pedal.

Pedal blurring may be achieved in a number of ways. These include applying the pedal in short bursts to runs, leaving the pedal either fully or partially depressed throughout scale passages, cadenza figurations, and ostinato patterns, and flutter pedaling to create a "jumbled" or "confused" sound. (For example, the pedal directions in Messiaen's "Regard de l'Eglise d'amour" are: "Brouille de pedale - confus et menacant"; or, "jumble the pedal" so the sound is "confused and menacing.") However, blurring the pedal (something that comes all too easily for a majority of pianists) is not the purpose of this technique. Rather, it is knowing how and when it is artistically correct to do so.

Stylistic considerations. The concert grand piano as we know it today dates from the mid-nineteenth century. Prior to this time the effect of the pedal varied considerably from one instrument to another. When pedal blurring did occur, it was frequently due to the fault of the particular instrument. Even what may appear to be a deliberate attempt by some composers to indicate pedal blurring is often no more than a result of the inherent differences in the construction of the older instruments. For example, in the Sonata in C, No.50, Haydn indicates



that the pedal is to be left unchanged throughout four measures of conflicting harmony. But since the tone of the older "forte-piano" was comparatively light, the pedal could be left down for longer periods of time than is possible on instruments of today. To blur the pedal consistently in music of the classical period obscures the characteristic clarity of the texture and render an unmusical performance.

Composers such as Chopin and Liszt made full use of the capabilities of the concert grand piano including the pedals and often indicated pedal blurring in the score. Pedal blurring is a characteristic of the piano music of Debussy and Ravel. Many twentieth-century composers include pedal blurring, along with other techniques, in an effort to expand the tonal capacities of the instrument.

#### Teaching Procedures

Pedal blurring utilizes both full and partial pedaling techniques. Partial pedaling is preferable when a full depression of the damper pedal would create a sound that is too thick or unclear. The most commonly used forms of partial pedaling to create pedal blurs are half damping, half pedal, and sometimes flutter pedaling. Partial pedaling produces a quite different tonal effect than full pedal. Whether to use full or partial pedaling depends on a number of factors such as the size of the instrument, the acous-

tics of the concert hall, the desired tone color, and stylistic considerations.

Prerequisite skills. Because pedal blurring combines both full and partial pedaling, it is necessary for the student to understand the basic differences between the two. While each of these skills are covered in depth in separate teaching units, the main pedagogical procedures are presented here. Ask the student to

1. Place the right foot on the floor. Keeping the heel on the floor, move the toes up and down. Be aware of the sensation behind the big toe since this is the one that will be used the most in pedaling. Vary the speed and the vertical height which the toes are allowed to move, and gradually decrease this distance until the motion is barely visible.

2. Contrast this motion with the more awkward motion of moving the entire front portion of the foot up and down. Although the heel still remains on the floor, ask the student to notice the difference in the muscles that are involved. Using the whole foot utilizes the larger muscles of the foot and calf of the leg, while pedaling just behind the toes involves predominantly the smaller toe muscles. It should become obvious that moving just the toes allows much greater sensitivity and agility.

3. Transfer these procedures to the damper pedal. Check to be sure that the toes remain in contact with the

pedal, and the heel rests comfortably on the floor. This also prevents the temptation to "hit" the pedal audibly.

Preliminary exercises. Have the student differentiate between the amount of pressure required for full and partial pedaling while pedaling behind the big toe rather than the entire foot. Ask the student to

1. Depress the pedal fully, using the entire depth of its range. Play any note on the piano and listen to the full sound that is produced when the pedal is fully depressed.

2. Play the note again while depressing the pedal. Remove the finger from the key, then slowly release the pedal just to the point at which the sound is released. This is the height above which the pedal should not rise in order to retain all the notes.

3. Using both hands, play chords that encompass the bass and treble registers of the keyboard. Hold these chords in the pedal, but do not hold the keys down in the hands. Do the following with each chord that is played:

- A. Use a deep, initial descent of the pedal, then let the pedal gradually rise.

- B. As it rises, move the toes up and down very slightly.

- C. Listen carefully to the sound that is being produced. All of the notes must be retained in the pedal. If the bass notes are lost, this indicates that the ascent

of the pedal was too rapid and abrupt. However, if the initial sound is retained entirely and no change occurs as a result of using the pedal, the texture of the sound is too thick. The height and depth of the range in partial pedaling should then be increased.

Half damping. The amount of pressure applied to the pedal, which in turn affects the height of the dampers above the strings, will determine the amount of sound that will be released when the damper pedal is partially depressed. The student should learn to gauge this distance by feel. However, since pedal actions can vary greatly from one instrument to another, it is impossible to predict the exact amount of sound that will result when the damper pedal is partially depressed. Therefore, it is necessary to determine the maximum height and depth of the pedal's range that is used in half damping. It may also be helpful to experiment on several different instruments. Have the student continue the process begun in step three above, then reverse the procedure to determine the depth of the pedal's descent. Ask the student to do the following:

1. Play a chord while depressing the pedal fully, but experiment with the amount of released damper sound by slowly and carefully controlling the height that the pedal is allowed to ascend and still retain all of the notes.

2. Play a chord, then slowly depress the damper pedal just to the point where the tones are barely sustained by

the pedal. Play the chord several times again, each time depressing the pedal slightly farther but not allowing it to descend fully. Notice the change in the quality of the sound from a very thin texture to a more full sonority.

Half pedaling. In half pedaling, only part of the notes that have been played are retained in the pedal while the others are released. In comparison, half damping sustains every tone. Ask the student to

1. Play a low octave in the bass and depress the damper pedal.

2. While the pedal is still depressed, play a chord softly in the upper register of the piano. Release the fingers from the keys.

3. Partially change the pedal so that the notes of the chord are cleared while the bass octave is retained.

4. Repeat this procedure moving closer to the middle range of the keyboard. Gradually increase the dynamic level of the chords until at least a mezzo-forte is reached and the pedal changes remain clean.

### Teaching Examples

Cadenza figurations and scales. The following two examples illustrate the use of half pedal to produce a blurring effect. In the first example, full pedal would obliterate the clarity of the scale and make the soft dynamic level difficult to achieve.

Example A: Chopin - Nocturne in F# minor, Op. 48, No. 2



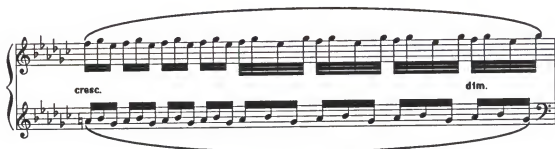
Example B: Chopin - Nocturne in B, Op. 9, No. 3

The pedal markings in this example are by the composer. Half pedal is effective in order to retain a strong harmonic support in the bass.



Color and atmospheric effects. The following examples use half damping to provide color and atmosphere.

Example C: Rachmaninoff - Etude Tableaux in Eb m, Op. 39, No. 5



Example D: Chopin - Sonata in Bb m, Op. 35 - (Presto)

Half damping is necessary to maintain clarity yet provide an atmospheric effect to portray spirits hovering over the grave. It also facilitates the crescendo.



## Teaching Unit 18: Harmonic Pedaling

### Description of Technique

Aside from the numerous techniques that exist for the use of the damper pedal, it may be applied to a musical composition in one of two basic ways: harmonically or melodically. Harmonic pedaling refers to pedaling a musical passage in such a way that the harmonic elements are emphasized and retained in the pedal. This requires an understanding of the harmonic structure of a musical composition.

Harmonic pedaling does not refer to any one specific pedaling technique. Rather, it is a more advanced form of pedaling that combines a number of pedaling skills.

### Application When Playing

Harmonic pedaling is often omitted or marked incorrectly in printed editions. Pedal indications are frequently marked according to the meter of the music, with a change of pedal indicated on the first beat of each measure. Therefore, pedaling harmonically may appear to conflict with the musical score. For instance, harmonic pedaling often involves pedaling through rests, retaining notes in the pedal that have no pedal markings, and overlapping harmonies in a way that visually may seem to conflict with the rhythm or barline.



Some of the more scholarly recent editions provide a number of different markings to distinguish among various types of pedaling. In these editions, harmonic pedaling is often marked quite well. Before a pianist attempts to apply harmonic pedaling to a musical composition, he or she must understand the harmonic structure of the piece. Artistic pedaling can be achieved only when the various components of the harmony and melody are understood, balanced, and integrated.

Harmonic pedaling often involves retaining certain bass notes in the pedal while partially clearing those in the melody. As its name implies, it includes pedaling the accompaniment and underlying bass line, and at times providing the support of an unbroken sonority of sound. Correct harmonic pedaling involves a sensitivity to the relationship of the melody, the accompaniment, and the bass line.

### Teaching Procedures

Preparatory exercises. Harmonic pedaling combines both full and partial pedaling techniques. Because of this, its use requires the student to possess certain basic prerequisite skills. These skills include legato pedaling and half pedaling. At times this may also involve the ability to execute rapid pedaling changes while depressing the pedal only partially down, the ability to pedal one

hand and not the other, and even finger pedaling. These skills are covered in depth in separate teaching units, but the basic pedagogical procedures pertaining to harmonic pedaling are presented here.

Prior to teaching harmonic pedaling it may be helpful to review with the student the fundamental differences between full and partial pedaling. Ask the student to:

1. Place the right foot on the floor. Keeping the heel on the floor, move the toes up and down. Be aware of the sensation behind the big toe, since this is the one that will be used the most in pedaling. Vary the speed and vertical height which the toes are allowed to move, and gradually decrease this distance until the motion is barely visible.

2. Contrast this motion with the more awkward motion of moving the entire front portion of the foot up and down. Although the heel still remains on the floor, ask the student to notice the difference in the muscles that are involved. Using the whole foot utilizes the larger muscles of the foot and calf of the leg, while pedaling just behind the toes involves predominantly the smaller toe muscles. It should become obvious that moving just the toes allows for much greater sensitivity and agility.

3. Transfer these procedures to the damper pedal. Check to be sure that the toes remain in contact with the

pedal, and the heel rests comfortably on the floor. This also prevents the temptation to "hit" the pedal audibly.

Full and partial pedaling. The student is now ready to learn the techniques associated with full and partial pedaling. Have the student differentiate between the amount of pressure that is required for full and partial pedaling while pedaling behind the big toe rather than the entire foot. Ask the student to do the following:

1. Depress the damper pedal fully, using the entire depth of its range. Play any note on the piano and listen to the full sound that is produced when the pedal is fully depressed.

2. Play the note again while depressing the pedal. Remove the finger from the key, then slowly release the pedal just to the point at which the sound is released. This is the height above which the pedal should not rise in order to retain all the notes.

Have the student play chords in both hands that encompass the bass and treble registers of the keyboard. Ask the student to hold these chords in the pedal, but do not hold the keys down with the fingers. Do the following to each chord that is played:

1. Use a deep initial descent of the pedal, then let the pedal gradually rise.

2. As the pedal rises, move the toes up and down very slightly.

3. Listen carefully to the sound that is being produced. All of the notes must be retained in the pedal. If the bass notes are lost, this indicates that the ascent of the pedal was too rapid and abrupt. However, if the initial sound is retained entirely and no change occurs as a result of using the pedal, the texture of the sound is too thick. The height and depth of the range in partial pedaling should be increased.

Half pedaling. At this point the student should have the technical skill to combine full and partial pedaling in a way that can incorporate the concept of half pedaling. Ask the student to do the following:

1. Play a low octave in the bass and depress the damper pedal.

2. While the pedal is still depressed, play a chord softly in the upper register of the piano. Release the fingers from the keys.

3. Partially change the pedal so that the notes of the chord are cleared while the bass octave is retained.

4. Repeat this procedure moving closer to the middle range of the keyboard. Gradually increase the dynamic level of the chords until at least a mezzo-forte is reached and the pedal changes remain clean.

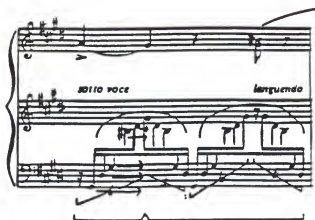
Finger pedaling. Finger pedaling is a useful technique that can aid conventional pedaling. In finger pedaling, notes are held with the fingers while the pedal

is changed. This gives the illusion of longer periods of unbroken pedaling.

There are a number of different situations in which finger pedaling can be applied. However, one of the more frequent uses of finger pedaling in relation to harmonic pedal is to sustain the overall sonority of the accompaniment as the pedal is changed. Ask the student to pedal the following example as it is marked.

### Teaching Examples

Example A: Liszt - Etude in Db ("Un sospiro")



Harmonic pedaling. The concept of harmonic pedaling varies from simple to complex. It involves first analyzing a musical score, then listening to determine where and for how long the pedal should be applied to retain the harmony. In its simplest form, it merely involves prolonging the harmony, as in the example below.

Example B: Chopin - Scherzo in Bb Minor, Op. 31



More frequently, however, harmonic pedaling combines a number of pedaling techniques. This next example illustrates the use of full pedaling, half pedaling, and finger pedaling. An examination of the score reveals that the harmonic and melodic changes do not always coincide with the barline or with each other. The pedaling in this example is more complex and several acceptable solutions are possible. For this reason, two different pedal markings are given. Finger pedaling is emphasized more in the first one.

Example C: Chopin - Ballade in Gm, Op. 23



## Teaching Unit 19: Pedaling One Hand and Not the Other

### Description of Technique

Pedaling one hand and not the other consists of activating the damper pedal so that it sustains tones from only the keys played by one hand or in one or more parts simultaneously, while those in the other hand or other parts are released.

### Application When Playing

It is often necessary to pedal the part played by only one hand. This occurs when one hand is marked legato and the other staccato or when one melodic line is phrased differently from the other. Successful application of this technique depends upon an understanding of the principle of non-simultaneous key release. Non-simultaneous key release occurs when two or more keys are released at different times. Usually this occurs because of different articulations.

In the example given on the next page, the three upper parts are marked "tenuto sempre" while the bass notes are marked "staccato sempre." Without the use of the pedal it is impossible to achieve the sustained legato line called for in the upper parts. Yet, pedaling should not infringe upon the staccato bass notes. Clearly, some pedal is needed, but where?

To connect the upper voices while preserving the staccato articulation in the bass line, the pedal should be depressed during the fourth sixteenth rest of each beat, but prior to lifting the hands that are sustaining the chords. It is not necessary to depress the pedal all the way to the floor in such cases. Pedal changes must be very rapid, however, because very little time is allowed between the sixteenth rest and repeating the chords. The pedal should be released exactly with the staccato sixteenth notes in the bass line. This will allow the upper voices to sound legato while at the same time preserving the integrity of the staccato in the bass.

#### Teaching Procedures

Prerequisite skills. To achieve the delicate control needed to accomplish this technique, several conditions need to exist. The student should maintain proper body alignment, and correct position of both the right foot on the damper pedal and left foot on the floor. This action will provide balanced support for the body and alleviate tension, which can then free the feet and hands to operate independently.

To teach pedaling one hand and not the other in the example provided, ask the student to do the following:

1. Begin by playing the left hand alone without the pedal. Each finger should be relaxed to obtain maximum



finger independence for distinct articulation of parts. Be sure that the bass line is played staccatissimo.

2. Feel the legato sensation in the repeated notes played by the thumb. This is achieved by an outward rounded motion of the forearm as it drops into each of the repeated notes. (The straight up-down lifting of the forearm is to be avoided.)

These physical actions will help create a feeling of continuity and project the forward motion of the melodic line. They will also provide the student with an important mental preparation for the legato concept in pedaling. Ask the student to

3. Hear mentally both the legato thumb line and the staccato bass as the left hand part is played alone.

4. Play the repeated chords consisting of the double notes played by the right hand in combination with the thumb of the left hand. Be sure these notes are sustained, since they must be held while the pedal is activated.

5. Pedal the chords using legato pedaling. Practice holding onto the chords and delaying the pedal changes until the very last moment to allow sufficient time for the staccato bass notes to stop sounding when the upper and lower parts are combined.

6. Combine the pedal with the left hand alone. Listen carefully so that the conclusions of the staccato bass notes are not obscured by the pedal.

7. Combine both hands with the pedal in the example below.

### Teaching Examples

Example A: Beethoven - Sonata in A, Op. 2, No. 2,  
(Largo Appassionato)



The concept of pedaling one hand and not the other is similar in many respects to delayed syncopated pedaling or legato pedaling. The following example is indicative of this similarity, and may be helpful for students who find the pedaling in the previous example difficult to grasp at first.

Example B: Paderewski - Minuet in G



## Teaching Unit 20: Sostenuto Pedaling

### Description of Technique

The middle pedal, commonly referred to as the sostenuto pedal, has only one main function: to sustain selected notes while allowing other notes to be dampened. When this pedal is depressed, it will catch and hold any dampers that are raised from the strings.

Operation. To properly employ the sostenuto pedal, it is necessary to know something about how it works. The sostenuto mechanism on a grand piano is controlled by a bar with a protruding edge that extends along the base of the dampers. Each damper contains a felt covered sostenuto tab. When the sostenuto pedal is depressed, the sostenuto bar rotates so that its protruding edge catches the tabs of the dampers that are raised. The dampers must be raised to a certain height before the tabs can be caught by the sostenuto bar. The sostenuto pedal does not affect other notes, nor does it interfere with the operation of the damper pedal. Releasing the sostenuto pedal unlocks the damper tabs and returns the damper action back to the normal position.

Because the sostenuto bar catches only raised dampers, notes that are to be held by the sostenuto pedal must be played before this pedal is activated. In other words, in order for the middle pedal to sustain a note or notes, cer-

tain conditions must be met. These involve careful timing and coordination. First, the sostenuto pedal must be depressed after the notes to be caught are played while the fingers are still holding the keys. Second, the damper pedal must not be activated until after the sostenuto pedal is depressed, or all the dampers will be caught by the sostenuto pedal. Third, the sostenuto pedal must remain fully depressed throughout its use, or other unwanted tones will be sustained.

Depressing the sostenuto pedal does not interfere with the action of the remaining notes that are not caught. Also, once the sostenuto pedal is depressed the damper pedal can be used to hold and change other harmonies. However, the sostenuto pedal must remain fully depressed while the damper pedal is activated, for if it rises even a small distance other tones will be held.

The sostenuto pedal was patented in 1874 by the American piano firm Steinway and Sons. It is the most recent of the three pedals to be added to the piano. However, unlike the damper pedal and the una corda pedal, it is not standard equipment on every grand piano. Some European piano manufacturers have been reluctant to incorporate the sostenuto pedal, and many pianos are built without it. Even American grands that are not intended for concert or professional use often do not have a sostenuto pedal. Unfortunately, some grand pianos have a "fake"

sostenuto pedal that raises all the dampers in the bass section below middle "C." This action duplicates the function of the damper pedal for the lower portion of the keyboard, and makes selective sustaining of notes impossible. A large percentage of upright pianos are built with only two pedals or do not have an authentic sostenuto pedal. Therefore, use of the sostenuto pedal is generally limited to the grand piano.

Terminology. There is no consistent nomenclature for the sostenuto pedal. In English the sostenuto pedal is referred to as the prolonging pedal, Steinway pedal, sustaining pedal, S.P., tonal pedal, third pedal, and Ped. 3. Additional terminology include Prolongement, Pédale de prolongation, and Prol. Péd. (French); Tonhaltepedal, and Tonhaltungspedal (German); and Il pedale tonale (Italian).

Terminology and symbols directing the use of the sostenuto pedal are also inconsistent; there is no common practice for indicating this pedal. Except for a few twentieth-century composers, use of the sostenuto pedal is generally not marked in the score. When it is marked, however, its activation is more commonly indicated by S.P., Sos. ped., Sost. Ped., Ped. sost., or sostenuto pedal. These terms are sometimes accompanied by solid or dotted lines indicating the exact duration of sustaining. Other indications for the sostenuto pedal include SOS., SOS.

(HOLD), CHANGE SOS., SOS. UP, prol. Ped., and Sust. Ped. In Bartok's Third Piano Concerto the sostenuto pedal is indicated by the words "sustain pedal" followed by note values, for instance:



### Application When Playing

Function. The performer must often decide when it is effective and appropriate to use the sostenuto pedal. Not only are written indications for this pedal scarce, but the composer may not actually specify notes to be held. At times these notes may be implied only through the harmonic context and style of the piece.

The sostenuto pedal can be used effectively for the following purposes: (1) to hold bass pedal points, (2) to facilitate awkward technical passages, (3) to aid contrasting articulations, (4) to achieve a clear damper pedal change, (5) to create special effects, and (6) to selectively sustain important harmonic or melodic notes.

Like the damper pedal, the sostenuto pedal must be applied discriminately. Even when its use is indicated by the composer some modification may be necessary. For instance, the piano may have a malfunctioning sostenuto pedal, one that is improperly regulated, or none at all. Compromise solutions using the damper pedal should always be available to the performer. Often the desired sostenuto

effect can be produced by a series of partial pedaling techniques using the damper pedal alone. But at times the damper pedal may create serious blurs in the musical line that preclude its use. Experimenting with both pedals not only provides alternative solutions to using the sostenuto pedal, it also enables the pianist to choose pedaling that best clarifies the composer's intent.

Composers will sometimes provide additional means of pedaling when the music calls for the use of the sostenuto pedal. For instance, in his Piano Variations Copland indicates "Sust. Ped." But he also includes an alternate version "for pianos without Sustaining Pedal."

Application. From the time of Beethoven on, there was a need for selective sustaining of notes to be accomplished by whatever means were available. The sostenuto pedal was not invented until after the death of several important Romantic composers including Schubert, Chopin, and Schumann. Composers did not begin to indicate the use of the sostenuto pedal explicitly until nearly half a century after its invention. Even well into the twentieth-century the sostenuto pedal was generally ignored. The word "sostenuto" is found frequently in the music of Brahms and Chopin, but this is a tempo indication and does not refer to sustaining notes by either the fingers or the pedal.

The need to selectively sustain notes reached a peak in the Impressionistic piano music of Debussy and Ravel.

Yet Debussy did not have an instrument with a sostenuto mechanism and apparently was unaware of its existence. Ravel was not aware of the sostenuto pedal until many of his piano compositions had been written. Although there are hundreds of piano pieces in which there is no occasion to use the sostenuto pedal, there are numerous situations where it is extremely useful and even necessary. Composers and pianists have been slow to recognize the advantages of this pedal, but symbols for sostenuto pedaling are beginning to appear with increasing frequency.

#### Teaching Procedures and Examples

The sostenuto pedal is normally depressed with the left foot. If the damper pedal is not used at all, it is possible for the right foot to manipulate the sostenuto pedal and the left foot to depress the una corda pedal. At times, however, it will be necessary for the left foot to depress both the una corda and sostenuto pedals simultaneously. The technique required for utilizing the sostenuto pedal involves careful timing and is more complex than that of the una corda pedal.

#### Use of the sostenuto pedal alone

Preliminary exercises. Notes that are to be retained in the sostenuto pedal must be played and held down by the fingers first, before the pedal is depressed. The effect of the sostenuto pedal is more pronounced when notes are



held in the bass. Therefore, the following sequence of steps is recommended in teaching the use of this pedal.

Ask the student to do the following:

1. Play a low octave in the bass.
2. While holding the notes depress the sostenuto pedal completely, using the left foot.
3. Release the fingers from the keys. (The low bass octave should be securely held in the sostenuto pedal.)
4. Release the sostenuto pedal.

The second exercise involves experimenting with notes that are not held in the sostenuto pedal, such as shifting harmonies above a constant bass. Ask the student to repeat the first three steps given above, then do the following:

1. Play chords or single notes above and below the sustained octave. Listen to the sound that is produced. (While these tones should not be caught in the sostenuto pedal, a slight echoing sound may be heard due to the vibration of sympathetic partials.)

2. Release the sostenuto pedal.

When this simple exercise is repeated in various registers of the keyboard, it becomes a good way to verify quickly if the sostenuto mechanism is operating properly.

Sustaining bass pedals. The student should now be ready to transfer these procedures to musical examples using the sostenuto pedal alone. The following excerpt is from a transcription of an organ work by Bach, where

frequent use is made of pedal points. The forte bass octave enhances the sostenuto effect.

Example A: Bach - Toccata in D minor for organ



Ask the student to do the following:

1. Play the bass octave "D".
2. Depress the sostenuto pedal with the left foot.

Hold the bass long enough to secure the octave in the sostenuto pedal.

3. Release the octave and continue playing the remaining chords while the sostenuto pedal remains depressed.

4. Release the foot and hands at the rest.

The student should learn to activate the sostenuto pedal rapidly since it must be employed frequently in this manner.

Contrasting articulations. In the following example, the sustained chord must be held through a series of staccato chords. The sostenuto pedal may be depressed with either foot since the damper pedal is not used in this passage.

Example B: Bartok - Allegro Barbaro



Sostenuto pedal combined with the damper pedal

Preliminary exercises. The sostenuto pedal can be combined with the damper pedal in various ways to achieve artistic results that otherwise may seem impossible. Before applying these techniques to musical examples, the student should be able to operate each pedal alone and in combination with the other. When the sostenuto pedal and damper pedal are used together, timing is very important. To help the student coordinate the timing of both pedals, the following exercise is recommended. Ask the student to do the following:

1. Play a low note in the bass.
2. While holding the note depress the sostenuto pedal completely with the left foot.
3. Release the note. Keep the sostenuto pedal depressed through Step 6.

4. Play a chord using both hands. Hold the chord and depress the damper pedal fully.

5. Repeat Step 4, playing chords in both hands up and down the keyboard. Change the damper pedal after each chord is played.

6. Release the chords and the damper pedal. Listen to the sound. The low note should still be sounding in the sostenuto pedal.

7. Release the sostenuto pedal.

The closing measures of Ravel's "Pavane" provide a musical extension of the above exercise.

Example C: Ravel - "Pavane pour une infante defunte"



The following examples combine the use of the damper pedal with the sostenuto pedal. They are chosen because the use of the sostenuto pedal is almost imperative.

Sustaining bass pedals. In the following example, the opening "G" octave is held as a bass pedal throughout the

first part and is only played twice again on the first page. It is not necessary to change the sostenuto pedal once the octave has been initially caught in it. The damper pedal can be operated normally after the sostenuto pedal is fully depressed. In fact, at any time during this section the hands and the damper pedal may be raised, but the "G" octave will continue to sound. Without the sostenuto pedal it is impossible to perform this work according to the written notation.

Example D: Saint-Saens - Second Piano Concerto, Op. 22

The image displays four systems of musical notation for Saint-Saens' Second Piano Concerto, Op. 22. The first system is marked 'Andante sostenuto' and includes the instruction 'Piano I Solo'. It features a piano part with a 'sostenuto' pedal marking and a solo part. The second system continues the piano part with 'm.s.' (maestro) markings. The third system is marked 'decrescendo e crescendo'. The fourth system shows a complex piano part with many beamed notes and a solo part. The notation is in G major and 2/4 time.

There are at least two compositions by Debussy in which it is widely acknowledged that the use of the sostenuto pedal is necessary: the Prelude from his suite Pour le Piano, and "La Cathedrale engloutie" from book I of the Preludes for piano. In "La Cathedrale engloutie" it is very difficult to achieve a convincing climax of the main theme without using the sostenuto pedal. Because of the fortissimo dynamic level, half pedaling would lose the full sonority of the bass pedal point and blur the upper voices. The sostenuto pedal is helpful also in other sections of this composition.

Example E: Debussy - "La Cathedrale engloutie"

The image displays a musical score for Debussy's "La Cathedrale engloutie". It consists of two systems of piano (p) and sostenuto (s) markings. The first system shows a piano marking with a curved line indicating the pedal point, followed by a sostenuto marking with a curved line indicating the pedal point. The second system shows a piano marking with a curved line indicating the pedal point, followed by a sostenuto marking with a curved line indicating the pedal point. The markings are placed below the piano part of the score.

One of the most familiar examples is Rachmaninoff's Prelude in C-sharp minor. The sostenuto pedal is necessary

in both the first and last sections of this piece. In measure seven, the 'G#' octave is sustained throughout the measure with changing harmonies on each eighth note above it. Half pedaling may be employed, but the octave will not be sustained fully.

Example F: Rachmaninoff - Prelude in C# m, Op. 3, No. 2

Lento

S.P.

Example G: MacDowell - To The Sea (from "Sea Pieces"),  
Op. 55, No. 1

With dignity and breadth

S.P.

Contrasting articulations. Debussy's marking of "tres net et tres sec" indicates that pedal must be used sparingly for the dry sonorities in the example below. However, the middle section of this work (which contains an allusion to Wagner's Tristan und Isolde) requires sostenuto pedaling to sustain the chord in the measures marked "a Tempo" without destroying the dry quality of the grace notes and staccato chords that follow.

Example H: Debussy - Golliwog's Cake Walk



Silent key depression. Sometimes the sostenuto pedal is needed to sustain a long note, but other notes or chords are played at the same time. If the sostenuto pedal is depressed while unwanted tones are being played, they are also caught in the pedal. It is often possible for the pianist to depress the note to be held silently in advance and catch it in the sostenuto pedal before it is needed.



Such an opportunity may occur before the beginning of the piece or during a rest. A critical consideration in teaching this technique is to make certain that notes are depressed silently. If the keys are depressed completely to the bottom of the key "bed," an audible sound will probably result. However, if they are depressed only about two-thirds of the way down to the key "spot," or the point at which a slight resistance is felt, they will not sound.

Preliminary exercise. To teach silent depression of notes, ask the student to do the following:

1. Play any note quickly. (The note should sound.) Notice that very little key resistance is felt.

2. Play the note again, but depress the key very slowly. Notice that

- A. Key resistance is noticeable.

- B. It is more difficult to produce an audible sound when the keys are depressed slowly.

3. Depress the note slowly, just to the point at which key resistance is felt. (This will prevent the hammer from lightly striking the string as the key is depressed, but it also is sufficient to raise the damper fully from the string.)

4. Depress the sostenuto pedal fully.

5. Play the note, then release the fingers. The note should continue to sound in the sostenuto pedal. If it does not, tell the student to repeat Step 2 until he or she

can gauge the depth of the key "spot" more accurately. The exercise should be repeated until a feel for the exact distance becomes automatic.

In the following transcription by Liszt of Bach's organ Prelude and Fugue in A minor, a low "A" pedal begins in measure 10 and is held through measure 23. The pianist can depress the low "A" silently before beginning the piece and catch the raised damper with the sostenuto pedal. Ask the student to

1. Silently depress the low "A" before beginning the piece. Depress the key slowly until a small resistance is felt, about two-thirds of the way down.

2. Depress the sostenuto pedal. Continue to hold the sostenuto pedal through measure 23. When the "A" is played in measure 10, the sound will be retained by the sostenuto pedal.

Example I: Bach-Liszt - Prelude and Fugue in A minor  
for organ



The next example illustrates an opportunity to silently depress the keys during a rest. The two lowest notes are sustained for several measures, but the sostenuto pedal cannot be applied in the first measure since there is no way to prevent other notes in the upper two staves from also being sustained. The rest in the second measure presents an opportunity to apply the sostenuto pedal. The timing between depressing the keys and the pedals is as follows:

1. Play the first measure with the damper pedal depressed.
2. Silently depress the "D" and "A" in the left hand. Release the damper pedal.
3. Depress the sostenuto pedal.

Example J: Debussy - Preludes, Book II, No. 8, "Ondine"

The musical score for Debussy's "Ondine" from Preludes, Book II, No. 8, is shown. It consists of three measures. The first measure is marked "Rubato" and "p" (piano). The second measure is marked "d" (diminuendo). The third measure is marked "au Mouvt" (allegretto) and "p". The left hand has a rest in the second measure. The right hand has a rest in the first measure. The score includes a "S.P." (Sostenuto Pedal) marking at the bottom, indicating the timing of the pedal application.

Eliminating unwanted tones. The sostenuto pedaling techniques that have been presented up to this point have all utilized the normal operation of this pedal. In other words, notes that are to be retained in the sostenuto pedal are played before the pedal is activated, and the damper pedal is not applied until after the sostenuto pedal is depressed fully. A more advanced use of the sostenuto pedal involves controlling the level of the dampers of unwanted tones. This enables the pianist to catch notes with the sostenuto pedal at the same time other notes are being played, and while the damper pedal is being used.

The sostenuto mechanism of a well regulated grand piano catches only those dampers that are lifted above a certain critical height. Therefore, one of the main considerations in applying the sostenuto pedal artistically is to control the height of the dampers of those notes that are not sustained by the sostenuto pedal. Each damper is raised and lowered by an individual key. The entire set of dampers of the unwanted tones can be controlled either with the keys or with the damper pedal. This procedure is similar to silent key depression in reverse.

Controlling the height of the dampers with the keys. The following example illustrates this more advanced usage of the sostenuto pedal, whereby the keys alone are employed to control the height of the dampers.

Example K: Messiaen - "Canteyodjaya"



To teach this technique using the example above, ask the student to do the following:

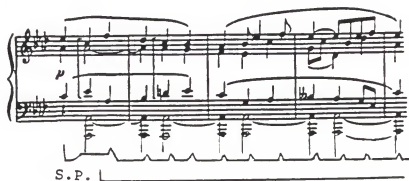
1. Play the first note in each hand.
2. Play the second note in the right hand. Slowly let the key rise to the point where the damper first touches the strings.

3. Depress the sostenuto pedal fully. This will catch the low "C" but not the high "C#."

Due to the shortness of their strings, notes in the treble register fade rapidly and can be tolerated more easily with a sustained bass. It is suggested that the student practice the first measure as a musical exercise, playing the notes on the upper staves one octave and two octaves lower than written.

Controlling the height of the dampers with the damper pedal. In the following example, strict observation of the score is possible only by using the sostenuto pedal in combination with the damper pedal.

Example L: Paul Dukas - Piano Sonata



To teach this advanced technique in the example above, ask the student to

1. Play the first chord and depress the damper pedal fully. Release both hands.

2. Slowly let the damper pedal rise until the chord fades slightly. Hold the pedal in this position through Step 5, which will set the dampers at the proper height.

3. Play the next chord. Hold the "Ab" bass octave firmly depressed through Step 5.

4. Release the right hand chord.

5. Depress the sostenuto pedal. This secures the bass octave in the sostenuto pedal, and the damper pedal can be used normally. No unwanted tones have been sustained.

It is always possible to set the proper position of the dampers to eliminate unwanted tones by first depressing the key or the damper pedal fully, and then slowly lifting

the fingers or the pedal to the correct height. With practice, however, it is possible to eliminate the preparatory step of full depression and to position the dampers directly. While this is more difficult, it is eventually faster and simpler because there is one less operation to perform.

Special acoustical effects. A more sophisticated use of the sostenuto pedal involves the use of harmonics. If a veiled, atmospheric tone quality is desired, the pianist may choose to let the harmonics of some notes sound throughout the piece and envelop the other sonorities. These notes are depressed silently and caught in the sostenuto pedal before the piece begins. Through sympathetic vibrations, the harmonics of the sustained notes are reinforced. Bagpipe music and music box imitations employ this device. This technique is illustrated in Bartok's "Harmonics."

Example M: Bartok - "Mikrokosmos" vol. 4, "Harmonics"

*Allegro non troppo, un poco rubato.*

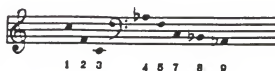
*ff* *p dolce*

Chord held down mute

In addition to sustaining tones, the sostenuto pedal can greatly reduce their dynamic level. This is possible by silently depressing notes and using harmonics while activating the sostenuto pedal. When the sostenuto pedal is used to sustain only a trace of sound, the effect is similar to pedal blurring.

A vibrating string produces a pitch that consists of a fundamental plus its overtones or partials. When a note is played, the vibrating strings cause the strings of the other notes in its particular overtone series to vibrate sympathetically when the dampers are not resting on the strings. Sympathetic vibration occurs also in reverse; fundamentals below a given note will cause that note to vibrate also and to produce a faint sound.

For example, the note "C" and its fundamentals are shown:



To sustain the "C" faintly, ask the student to do the following:

1. Depress one or more fundamentals silently.
2. Depress the sostenuto pedal.
3. Play the "C" and release it.



The "C" will continue to sound softly as an overtone. The fewer fundamentals that are held, the softer the resulting overtones will be. Using this concept, it is possible to depress silently a note or a group of notes not actually sounded in the piece and to catch them in the sostenuto pedal before beginning to play. If these notes are fundamentals of the notes being sounded above, the sympathetic partials will produce an atmospheric haze of sound.

This procedure is illustrated in Debussy's Voiles, which is based on the whole-tone scale, "G#" down to "Ab" as shown below:



Example N: Debussy - Preludes, Book I, No. 2, "Voiles"

(Depress silently before beginning to play)



Modéré (♩ = 68)  
(Dans un rythme sans rigueur et caressant.)



S.P. ↓

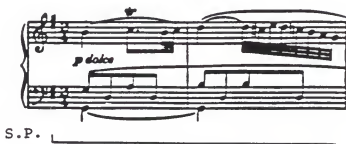
The whole-tone scale can be faintly sustained throughout the piece by depressing silently one or more fundamentals before the piece begins and catching them in the sostenuto pedal. To teach this concept in the following example, ask the student to

1. Depress silently a group of fundamentals such as the one suggested above.
2. Depress the sostenuto pedal and hold it throughout the piece.

Facilitating awkward technical passages. The sostenuto pedal can be used to help pianists with small hands sustain notes that they cannot reach.

Example O: Beethoven - Rondo in G, Op. 51, No. 2

Andante cantabile e grazioso



If a pianist cannot reach the left hand tenth, two options are available.

1. Depress the low "G" silently and catch it in the sostenuto pedal before beginning the piece. Or:

2. Play the low "G" very slightly in advance of the "G" and "B" above it and rapidly catch it in the sostenuto pedal.

Sostenuto pedal combined with the damper pedal and the una corda pedal

Occasionally the simultaneous use of all three pedals is necessary. This advanced technique is most frequently needed in Impressionistic compositions. When all three pedals are used together, the left foot manipulates both the sostenuto and una corda pedals, and the right foot operates the damper pedal.

Preliminary exercise. The left foot must be positioned correctly over both pedals before they can be activated properly. To teach the correct placement of the left foot, ask the student to

1. Place the left heel on the floor slightly to the left of the una corda pedal. Angle the heel to the left, away from the direction of the damper pedal.

2. Place the ball (or arch) of the foot on the una corda pedal.

3. Place the toes on the sostenuto pedal. Point them toward the damper pedal.

4. Practice depressing each pedal separately in this position:

A. Depress and release the una corda pedal by applying pressure with the ball or arch of the left foot.

Do not apply pressure to the toes to avoid activating the sostenuto pedal.

B. Depress the sostenuto pedal by applying pressure from the right side of the foot with the toes. Do not apply pressure from the left side of the foot so that the una corda pedal is not activated.

5. Practice operating both pedals consecutively by shifting the weight of the left foot from one pedal to the other. Both pedals must remain firmly depressed throughout.

6. Depress and release both pedals simultaneously.

After the student is comfortable with the correct feel for activating both pedals with the left foot, these techniques can be applied to a few simple exercises. Ask the student to repeat Steps 4, 5, and 6 slowly, while playing chords on the keyboard. When he or she becomes adept at this add the damper pedal, changing it with each chord.

In the following example, the una corda pedal is depressed first, at the beginning of the first measure. The sostenuto pedal is depressed immediately after the second note is played. The damper pedal is added last.

Example P: Ravel - "Valse nobles et sentimentales"

The image shows a musical score for a piano piece. It consists of two staves: a treble staff and a bass staff. The key signature has one sharp (F#) and the time signature is 3/4. The music begins with a piano (p) dynamic marking. Pedal markings are indicated below the staves: a bracket labeled 'S.P.' (Sostenuto Pedal) spans the first two measures, and a bracket labeled 'Sourdine' (Una Corda) spans the first measure. The notation includes various chords and melodic lines in both hands.

The closing measures of the second movement of Ravel's Sonatine utilize all three pedals and employ a number of techniques. If this passage is played by using partial pedal changes instead of the sostenuto pedal, much of the sonority and effect is lost. Besides coordinating all three pedals, the pianist must employ the technique of silent key depression and control the level of the dampers with the keys and the damper pedal.

The most problematic spot in this example involves sustaining the fifth in the bass during the last two measures. The fifth can be sustained by the sostenuto pedal, but other notes are being played at the same time, and the damper pedal is being used. Both hands release the keys in the second measure at the fermata. While this is an ideal place for the fifth to be depressed silently and caught in the sostenuto pedal, additional techniques are needed because the pedal resonance of the previous measure continues into this measure.

The following suggestions are recommended in teaching the use of all three pedals in this passage. Ask the student to do the following:

1. Play the first measure using a full depression of the damper pedal. Gently vibrate the pedal at the fermata to enhance and diminish the tones slightly.

2. Continue the gentle pedal vibrato, but slowly and gradually let the pedal rise to the point at which the

sound begins to taper a little. Hold the pedal in this position.

3. Silently depress the "Db" - "Ab" fifth in the left hand.

4. Depress the sostenuto pedal.

When the fifth is played later, it will be sustained automatically in the sostenuto pedal.

Example Q: Ravel - Sonatine

The image shows a musical score for a piano piece, identified as Ravel's Sonatine. The score is written for piano (p) and includes a sostenuto pedal (S.P.) marking. The music is in 3/4 time and features a complex harmonic structure with many accidentals. A bracket above the right-hand part indicates a section marked "Très lent" (Very slow) and "Rall." (Ritardando). Below the staff, a line labeled "S.P." (Sostenuto Pedal) shows the pedal being depressed at the beginning of the "Très lent" section and held throughout the passage.

One of the most familiar musical examples employing the use of all three pedals is "Clair de lune" by Debussy. Because of the wide separation between the low bass octave and the high register of the upper voices, this passage is frequently performed using just the una corda and the damper pedals. However, the wide spacing also facilitates the use of the sostenuto pedal. While it is not easy to manipulate all three pedals at once, every available technique should be used to convey the composer's written intent.

Example R: Debussy - "Clair de lune" from  
Suite Bergamasque



Teaching Unit 21: Pedagogical Sequence for  
Implementing Piano Pedaling Techniques

Artistic pedaling is based upon an understanding and command of basic pedaling techniques. Just as finger technique should be analyzed methodically and mastered during the student's course of study, the use of the pedals should receive similar attention. Fine piano playing is impossible without the correct use of the three pedals. A careful examination of pedaling techniques is necessary to decide how and when to use the pedals correctly.

The study of pedaling should begin early in the student's musical training. However, if it is introduced too early, bad habits may be formed that will have to be corrected at a later date. For example, if a child is allowed to put one foot under the heel of another in order

to reach the pedals, that habit will need to be corrected later. On the other hand, if the student is not taught to pedal correctly in the beginning, a haphazard use of the pedals will probably result, which can damage the student's musical performance and his or her aural perception.

### Prerequisites

In general, the student should be able to meet certain physical and musical requirements before being taught to use the pedals. These include the ability to: (1) reach the pedals without sacrificing correct posture at the keyboard, (2) coordinate hand and foot work, and (3) operate each finger independently. A familiarity with the more rudimentary concepts of elementary harmony is also helpful.

The teacher can capitalize on a student's natural curiosity and introduce techniques and concepts of pedaling as the need arises and as they are encountered within each piece. However, pedaling is a complex subject. Numerous techniques exist for the use of each pedal, and various applications can be made within each technique. A teacher who is thoroughly familiar with pedaling techniques will be better able to implement them at times appropriate for each student.

### Pedagogical Sequence

In order to obtain the best teaching and learning results, the teacher should follow a pedagogical sequence



for introducing each pedaling technique that presents the concepts in a logical, systematic order. However, no hard and fast rules can be made. After considering the age and maturity of the student, the teacher must carefully introduce the various concepts of pedaling, as well as the subtleties within each concept. It is not necessary to introduce new aspects of pedaling at each consecutive lesson, nor is this advisable. The student should be given sufficient time to become comfortable with each technique and to allow each new step to sink in.

Despite its recognized importance, the teaching of musical and artistic pedaling has frequently been ignored by many piano teachers. Perhaps one reason is the belief that ultimately the ear is the best and only judge of how much pedal to use, and every piano and every hall is different, to say nothing of the personality of the performer. While this is true, to the extent that the student is not taught each facet of piano playing, the quality of his or her musical understanding and performance is diminished.

#### Preliminary Studies

Before a student is introduced to the various pedaling techniques, he should possess certain basic skills and knowledge. The first lesson in pedaling should include a brief explanation of the function of the three pedals as

well as an examination of the piano's damper mechanism. Let the student look inside the piano in order to see and hear what happens when the pedals are used. Demonstrate the use of the pedal for the student as each one is introduced. If the student can understand a few elementary principles of harmonics, then he or she can better appreciate why some combinations of sounds are harsher to listen to than others and how good pedaling can overcome unnecessary clashes of sounds.

A proper seating position and the correct placement of the foot on the pedals are essential from the beginning. Have the student practice depressing each pedal and releasing it without removing the foot from either the floor or the pedal and making as little mechanical noise as possible. When this is an easy movement, teach legato pedaling.

The pedals are rarely used by very young students because of physical limitations and because they are occupied with note reading and fingering. One of the few instances where the damper pedal might be used is for sustaining the final chord of a section or composition. Many piano methods coordinate the teaching of all aspects of piano technique, including the introduction of the pedals along with appropriate repertoire. Beginning students should not go beyond pedaling the final chords of pieces until they are able to execute finger legato.

Take time to establish good pedaling with both the foot and the ear, because the use of the ear is of prime importance at this stage. Encourage students to listen to each other's pedaling and to add pedal to examples played by the teacher. Simple chord progressions can be used for exercises, as well as hymn tunes and chorales.

### Pedaling Techniques

Damper pedal. The damper pedal may be depressed in one of three ways: before the note, with the note, or after the note has been played. Simultaneous depression of the foot and hands is easier to execute than legato pedaling, which requires a syncopated use of the pedal. However, a number of reasons preclude introducing simultaneous pedal activation first. Its use is limited and specialized, and it necessitates careful listening to control the pedal release. The majority of pedaling techniques require the damper pedal to be depressed after the note has been played. Depressing the pedal with the note then becomes a common fault that should be corrected as soon as possible.

In addition, the damper pedal may be depressed either fully or partially. The more basic techniques of pedaling involve a full depression of the pedal, and these techniques are normally presented first.

The concepts involved in legato pedaling can be used naturally to explain legatissimo pedaling. Legatissimo

pedaling can be applied in many of the same situations as legato pedaling, but the student will be required to listen more closely to differentiate between the two. Using the pedal for rhythmic effects such as accents and for a waltz-type bass is perhaps the logical extension of applying pedal to chorales and hymns.

Before progressing much farther in the use of the pedals, the student should be able to produce a good legato connection using the fingers alone, without the use of the damper pedal. The student may have encountered this concept earlier in his repertoire, but, if not, it should be introduced now. It may seem logical to teach finger pedaling prior to teaching legatissimo pedaling so that the overlapping legato effect is produced first by the fingers alone. However, finger pedaling requires a coordination and technical independence of the fingers that is not required in the other pedaling techniques. Also, the overlapping effect of the harmonies can be reproduced only by the pedal and does not require the fingers to sustain each tone. If finger pedaling is introduced too soon, it may detract from, rather than support, finger independence.

Staccato pedaling can easily be taught next, since the student's aural perception should be sufficiently acute to enable him to play and pedal with clarity. Staccato pedaling requires the pedal to be activated and released with the notes being played. This involves careful timing.

Staccato pedaling can be followed by portato pedaling, which also involves a careful but more gradual release of the pedal.

The damper pedal can be used in combination with finger technique to project phrasing and articulation by a careful timing of its activation and release. Pedaling to enhance phrasing and articulation employs several types of pedaling, especially portato pedaling. It can provide a good introduction to partial pedaling because at times it is necessary to vibrate the damper pedal slightly.

Melodic pedaling does not refer to one specific technique but to pedaling primarily those elements that enhance the melodic material. It precludes using the pedal in a harmonic function and requires very careful listening skills.

Partial pedaling. When the student has mastered these techniques for full pedaling, he or she can progress to the more sophisticated uses of the damper pedal for partial pedaling. Of these five techniques, half-damping, or depressing the damper pedal only partially, is perhaps the least complex. Pedal vibrato, pedal diminuendo, and half-pedaling all involve combinations of both full and partial pedaling. Taught in this order, a logical, progressive sequence of concepts is established. Pedal diminuendo utilizes the vibrating motion of pedal vibrato but requires a gradual ascent of the pedal to diminish the sound. Half-

pedaling is more difficult to execute, since the initial full depression of the pedal retains those notes in the lower portion of the keyboard, while partial pedaling releases those in the upper register. A careful control of the pedal's ascent is imperative in this technique.

Flutter pedaling is one of the more difficult forms of partial pedaling to execute. This technique requires more physical skill in that it utilizes very rapid motions of the toe. It also requires a certain amount of stamina to maintain.

At this point, the student has learned all of the specific techniques for utilizing the damper pedal. Through combinations of these techniques, the damper pedal may be applied in various ways to achieve specific effects. Pedaling for dynamic effects capitalizes on the damper pedal's ability to enhance tone quality. While this capacity is one of the more basic functions of the damper pedal, its use in this technique involves a complex coordination between the hands and the pedal as well as careful timing between depressing and releasing the notes.

Using the damper pedal to deliberately create a blur is contradictory to its use in nearly every other situation. Pedal blurring is a technique that is obviously delayed until after the student is able to apply the pedal in an artistic manner. This technique calls for a discriminating use of the damper pedal.

The damper pedal may be applied either melodically or harmonically to a musical composition. Harmonic pedaling requires an understanding of the harmonic structure of the piece. It is an advanced form of pedaling that combines musical knowledge with a number of pedaling skills.

One of the most difficult techniques to execute successfully is pedaling one hand and not the other. While this may seem an impossibility at first, careful timing and coordination between activation and release of the notes and the pedal are required. In some musical passages, sufficient time is allowed through rests to accomplish this. But often this technique must be executed quite rapidly.

Una corda pedal. Let the student experiment with the use and mixture of sounds by using both pedals. The una corda pedal is often introduced after the student has mastered a few basic techniques for the damper pedal such as legato pedaling and pedaling for rhythmic effects. By then, the student will probably be studying repertoire that warrants the use of the una corda pedal. This pedal should not be introduced too soon, since there may be a temptation for the student to use it as a crutch rather than to produce the necessary changes in tone quality through finger technique. However, a careful and limited use of the una corda pedal can enhance the dynamic capabilities of finger technique. Pre-pedaling is often combined with the use of

the una corda pedal, especially when the dynamic marking of the piece is pianissimo.

Sostenuto pedal. Sostenuto pedaling is generally introduced later for a number of reasons. Many pianos do not have a sostenuto pedal, and many of those that do have one that is poorly regulated or that functions improperly. Because a pianist cannot rely with certainty on the availability of the sostenuto pedal for a performance, it is wise to have an alternate means of pedaling available. Similar effects can often be achieved through a combination of partial pedaling techniques using the damper pedal.

The performer must often decide when it is effective and appropriate to use the sostenuto pedal, since written indications for its use are scarce. Sostenuto pedaling utilizes a number of advanced techniques that require careful coordination and timing. In addition, it is sometimes necessary to employ the damper and una corda pedals when using the sostenuto pedal, so that all three pedals are activated simultaneously. These techniques require the student to be both physically and musically mature.

### Conclusion

Beyond a certain point, a sequential order for teaching pedaling techniques becomes less realistic and practical than that of teaching finger technique. A



pianistic course of study is not generally planned around a sequential introduction of pedaling techniques. Most of these concepts will need to be taught with the repertoire as they are encountered. This may involve the teaching of more than one pedaling concept at a time, because musical compositions usually require the use of more than one pedaling technique.

Individual preferences for pedaling differ greatly between artists. This may account for some of the reason why the sound produced by one pianist can be so different from that produced by another, even when their skills and instrument are the same. Nevertheless, a teacher should not leave pedaling to the intuition of the student until the student has completely mastered a step-by-step process of thinking, listening, and planning in the practice of pedaling techniques.

## CHAPTER 4

### FIELD TESTING AND VALIDATION

One evaluation design proposed by Stake (1972) employs the gathering of data from the systematic observation of the use of materials and procedures. The information is then recorded in both description and judgment matrices according to observations made (1) before training or requisite conditions, (2) during training or processes, and (3) after training or outcomes.

Because no systematic materials currently exist for the teaching of pedaling on the piano, a single program was utilized. It met the following criteria: (1) it involved both descriptive and judgmental data, (2) it emphasized a combination of antecedent conditions, transactions, and outcomes, and (3) it indicated the congruence between what was intended and what occurred.

#### Pilot Validation

Prior to conducting validation procedures, the materials were examined by twenty MTNA certified master teachers to secure comments and suggestions that would be useful in refining the pedagogical units developed for this

study. The pilot testing of the materials took place during August and September of 1988.

The certified piano teachers were each sent eleven sample teaching units to evaluate, along with a response form to complete for each unit. The form called on them to evaluate specific items, as well as to provide general comments about the content and format. They were requested to write directly on the units if necessary for clarification. The respondents then were asked to return all materials in the stamped, self-addressed envelope that was provided. They were also asked to indicate whether or not they would be interested in receiving additional units to evaluate.

Without exception, the comments were highly favorable and reinforced the need for a systematic presentation of pedaling techniques. As one teacher pointed out: "In all my materials, I have virtually no instruction on pedaling. This is a very needed technique that is lacking in adequate instruction." Although the teaching units were still in a formative stage and the respondents had seen only a representative sample, another teacher commented: "It is the most complete set of materials on pedaling that I have ever seen."

The respondents in general consistently commented that the teaching units were clearly written and easy to follow. They felt that the examples chosen were very clear and

illustrative of each technique. They commented that the information, organization, and presentation of the material was well-thought out, well-presented, and very thorough. One respondent stated: "I applaud your thoroughness and artistry in attempting to categorize pedaling techniques."

Some of the respondents commented that they felt inadequate or unable to offer suggestions. As one teacher replied: "You have taught me more than I can help you." Several encouraged the publication of this study, calling it "masterful" and "impressive."

A few suggestions were offered by several of the respondents, and those were incorporated into the revision of the teaching units. The suggestions were to (1) include more examples, (2) include easier examples as well, (3) clarify some of the diagrams, (4) include some examples of "direct" pedaling to precede legato pedaling, and (5) stress the importance of listening.

As a result, more examples were added, and examples representative of different levels of achievement were incorporated as well. Several diagrams were revised. Preliminary exercises involving "direct" pedaling were added prior to teaching legato pedaling. Finally, more attention was placed upon the importance of aural awareness, and additional exercises involving listening skills were included as well.

## Validation of Materials

### Validation Procedures

The pedagogical procedures that were developed in the teaching units have seldom been available for consideration by piano teachers. Therefore, validation was desirable, as is pointed out in Chapter One. A process of validation was employed that utilized dual means of securing the views of a group of experts about the usefulness and quality of the materials.

The pedagogical materials for teaching pedaling were validated in two ways. One was extensive in nature. They were examined and validated by a representative sample of piano teachers who are certified by the Music Teachers National Association (MTNA). The other was intensive. Each of the twenty pedagogical units was subjected to a structured analysis as to its effectiveness when actually used with students. This procedure was undertaken to provide a thorough, systematic study of the strengths and weaknesses of the various units when applied in instruction. The information gained from both types of validation provided the dual dimensions of breadth and depth.

Many curriculum project evaluators are adopting the definition of evaluation that includes not only the traditional description of pupil achievement, but also the description of instruction and the relationships that exist

between them (Stake, 1972). In his paper, "Evaluation for Course Improvement," Cronbach (1963) proposes that the main objective for evaluation is to uncover durable relationships that are appropriate for guiding future educational programs. Scriven (1967) suggests that evaluators have the responsibility for passing on the merit of an educational practice and that evaluation cannot take place until judgment has been passed. In his view, both judgment data and descriptive data are essential to the evaluation of educational programs.

#### Extensive Review of the Teaching Units

The extensive phase of the validation process was accomplished during a five-month period from April to September, 1989. The procedures described below were followed to secure expert opinion about the materials during this time.

Sample. The 1987-88 Directory of Nationally Certified Teachers published by the Music Teachers National Association was used to provide the list of certified teachers from which a random sample of names was drawn on the computer. The Directory includes the seven MTNA divisions and encompasses the continental United States, Alaska, and Hawaii.

The Music Teachers National Association, founded in 1876, is the oldest professional music teachers' organi-

zation in the United States. Its membership includes concert artists, faculty members of universities, colleges, and other musical institutions, as well as independent teachers of applied music. One of the important programs sponsored by MTNA is teacher certification, which is offered to members on a voluntary basis. A primary goal of this program is to strengthen the profession of private music teaching by establishing a required body of knowledge to be mastered and setting up requirements and awards for current and prospective teachers to encourage professional growth. Certification may be granted in all generally recognized areas of music study.

The MTNA Certification program was established on the principle that while performing ability and musical knowledge are prerequisites for good teaching, these capabilities alone are insufficient to confer the ability to teach well. The requirements and tests of certification are mainly concerned with those skills and experiences that improve the teacher as a teacher. MTNA certification affirms that a teacher has met a national standard in a designated field. Therefore, those teachers holding certification from MTNA comprise the "backbone" of quality piano teaching in the United States.

MTNA offers four types of certificates: the Professional Certificate (initially called the MTNA National Certificate), the Master Teacher Certificate, the Associate

Certificate, and the College Faculty Certificate. With the exception of the College Faculty Certificate, in order to achieve this level of certification teachers must successfully complete comprehensive written, oral, and performance examinations in music theory, history and literature, pedagogy, and performance. These examinations are prepared, administered, and evaluated by the National Certification Board of MTNA. In addition to the above, a lifetime Emeritus Certificate may be awarded to those certified teachers who reach the age of sixty-five.

The Professional and Associate Certificates are based on earned degrees from accredited institutions of higher learning. The Professional Certificate is awarded to candidates who hold a valid state certificate and meet one of the following requirements: (1) hold a bachelor's degree in music with a specified number of hours in the desired area of certification, (2) serve full or part-time on the music faculty of a nationally accredited institution for at least two years, or (3) successfully complete the MTNA Professional Certificate Examination. This certificate is valid for five years but remains valid for full-time faculty for the duration of their employment.

The Associate Certificate correlates with associate degree programs and music curricula of two-year community colleges. All applicants for the Associate Certificate must successfully complete the MTNA Pedagogy Examination.



A teacher may submit application in one applied performance medium only, and according to one of two requirements: (1) successful completion of the Associate Certificate Examination, or (2) graduation from an approved institution with a specified number of credits earned in designated areas, along with submission of a 35-minute tape of a performance by the applicant and by at least two of the applicant's students. The Associate Certificate is valid for five years.

The Master Teacher Certificate is designed to recognize accomplishments of leaders in the music teaching profession. It is the highest level of certification in MTNA. The Master Teacher Certificate is available to active members who have had a minimum of ten years teaching experience in the area of certification. It is awarded on the basis of points allotted for achievement in two or more of the following categories: (1) advanced degrees, (2) independent study with an artist teacher, (3) public performance, and (4) professional activities. The Master Teacher Certificate is valid as long as the teacher maintains active membership in MTNA.

The College Faculty Certificate is the most recent addition to the national certification program. It is awarded to candidates who are full-time college faculty members of no less than five years at an accredited institution. This certificate does not require renewal,

and is valid as long as the teacher maintains MTNA membership and is employed full-time by an institution of higher learning. The College Faculty Certificate had not been implemented at the writing of this dissertation and was therefore not considered.

All three available levels of certification were included in this study to ensure a more representative sample of the various levels of teaching. According to the Directory, 4,000 teachers are currently certified in various fields of music teaching. By far the largest percentage of these are professional certified teachers. Less than two hundred teachers (or about 5 percent) hold the Master Teacher Certificate, and only six teachers (or about .15 percent) hold the Associate Certificate. While professional certified teachers reside in every state, thirteen states are not represented by master certified teachers.

Only those teachers holding professional, associate, and master certification in piano and piano pedagogy were utilized in this study.

Sample of expert opinion. Sixty-three names were randomly selected from a total population of 2,763 from the 1987-88 Directory of Nationally Certified Teachers. The twenty teaching units plus the summary were considered collectively for purposes of validation as comprising a total of twenty-one distinct units. The twenty-one units

were randomly divided so that two of the units were randomly assigned to each respondent. By using sixty-three experts, each unit's validity was assessed six times. A random sequence was devised to select names in addition to the original sixty-three, in order to achieve at least a 90 percent response rate.

Each nationally certified teacher was first sent a stamped, self-addressed return postcard to indicate whether or not he or she would be willing to participate in the study. The writer requested that the postcards be acknowledged by return mail. Non-respondents or those who did not wish to take part in the study were replaced by additional names from the MTNA list.

A period of two to three weeks was requested for the return of the completed forms. After this time, all non-respondents were sent a follow-up letter. Respondents who made unclear suggestions or who indicated that they would like to communicate further were contacted by telephone.

Validation forms and procedures. Identical explanatory cover letters and response questionnaires were sent to each respondent. (See Appendices A and B). A separate validation form was included for each unit. (See Appendix C). The respondents were asked to examine the materials and to validate them according to (1) ideas, (2) pedagogical materials, (3) order of presentation in terms of the student's technical development, (4) pedagogical

processes, (5) musical development, and (6) stylistic factors.

### Categorization of the Units

The teaching units were grouped into four major categories according to requisite and prerequisite pedaling skills that the student should possess in order to learn each pedaling technique correctly. The four major categories and the related pedaling units within each one are listed below:

Category One: full pedaling. This category includes those pedal techniques that employ a basic use of the damper pedal to connect the tones. The pedaling techniques in this category are legato pedaling, legatissimo pedaling, pre-pedaling, and pedaling one hand and not the other.

Category Two: partial pedaling. These pedaling techniques require a partial release of the damper sound. They include half-damping, pedal vibrato, pedal diminuendo, flutter pedal, and half pedaling.

Category Three: pedaling to enhance rhythm, dynamics, and phrasing. The pedaling in this category includes those techniques that use the damper pedal in combination with finger technique to enhance the rhythmic, dynamic, or melodic elements. These techniques are pedaling for rhythmic effects, staccato pedaling, portato pedaling, finger pedaling, melodic pedaling, pedaling to enhance

phrasing and articulation, and pedaling for dynamic effects.

Category Four: the use of two or more pedals simultaneously. These techniques include una corda pedaling, sostenuto pedaling, pedaling for color and special effects, and harmonic pedaling.

#### Intensive Review of the Pedagogical Units

Teaching the units. To emphasize the aspect of the validation of the pedagogical units on pedaling, the investigator selected four certified piano teachers to teach at least one of the units each. The teachers each selected from one to three students who were at the appropriate stage to learn the pedaling technique. The teacher incorporated the teaching of pedaling concepts into those students' piano lessons. The teaching of that portion of the lesson was recorded on audio tape for later analysis by the researcher and a panel of two certified MTNA piano teachers according to the categories previously mentioned.

Observations were also recorded during a second lesson, after the student had practiced the technique for a minimum of two hours. Validation consisted of conclusions drawn that were based upon a compilation of data collected from both observations, from telephone conversations with the individual teachers, and from the response forms that

they were asked to complete. (See Appendix C for the validation form).

This portion of the intensive phase of the validation process was accomplished during a nine-month period between December, 1988 and September, 1989.

Review of the tapes. A panel of three certified MTNA piano teachers was selected to act as adjudicators in reviewing each of the four tapes together with the researcher. The adjudicators met in September, 1989, to analyze the tapes according to the categories of requisite conditions, processes, and outcomes that were specified in each teaching unit.

Sheets for analysis were prepared for their use. (See Appendices E and F). Their analyses focused on the degree of congruence between what the unit was intended to teach and what the students actually accomplished with the instructional unit.

### Incorporation of the Results

Each of the validation procedures employed to validate the pedagogical materials was analyzed independently. The opinions of experts were based on the analysis of responses to questionnaires, which were then grouped according to the individual units and types of suggestions. Conclusions were drawn regarding the pedagogical content and usefulness of each of the teaching units.

The tape recordings of the teaching portion of the representative units were analyzed according to specified categories. The information from the analysis sheets was grouped according to the type of suggestions that were offered.

The information obtained from both the extensive and intensive reviews of the material was then incorporated into the study, depending on the amount and nature of the suggestions offered. When several respondents mentioned the same point in the pilot testing of the units, changes were made in the original material incorporating those suggestions. Because only a few suggestions were offered in the validation processes, those comments and suggestions are included in a summary of respondent comments in the following chapter.

## CHAPTER 5

### SUMMARY, RESULTS, CONCLUSIONS AND RECOMMENDATIONS

One of the most neglected and misunderstood areas in piano pedagogy is the teaching of piano pedaling techniques. Despite its recognized importance, the teaching of the correct use of the pedals is in a fragmentary state (Bernstein, 1981) due to both ignorance and neglect (Banowetz, 1985). The most commonly cited fault in this area is the lack of teaching.

Pedaling is sometimes referred to as the most difficult branch of higher piano study (Cooke, 1976). Appropriate pedaling is an art that conveys not only a thorough grasp of the composer's intent, but also the artistic intelligence of the performer. Therefore, a thorough understanding and mastery of the use of each of the three pedals is essential for anyone who seeks to play at a high artistic level.

As indicated in Chapter 2, few systematic studies exist on the teaching of piano pedaling or the teaching of pedaling techniques. Until the publication of Banowetz's book on pedaling in 1985, no single comprehensive source of pedaling techniques had been published. References on pedaling appear plentiful, but only a comparative few show



much depth or comprehensiveness. The lack of systematic studies on pedaling has resulted in confusing and sometimes conflicting theories.

### Summary

The purpose of the present study was the systematic development and validation of pedagogical procedures for teaching students the correct use of the three pedals of the contemporary grand piano. Secondary related purposes included (1) the development of preliminary exercises to foster prerequisite skills prior to teaching pedaling techniques, (2) the classification of pedaling techniques according to related skills employed in executing each technique, and (3) the formulation of a pedagogical sequence for introducing piano pedaling techniques in a logical, systematic order.

The first step in the development of the study was to compile and synthesize the available knowledge about the many techniques that exist for the use of the three pedals. After identifying the various techniques, a series of pedagogical procedures was developed for the teaching of each pedaling technique. Twenty-one teaching units were developed that collectively form a comprehensive and systematic program of study of the three pedals of the piano. These units are the heart of this study, and they comprise most of Chapter 3.

The first twenty of these units each describe the function, application, teaching procedures, and pedagogical aspects of one pedaling technique. The twenty-first unit presents a systematic sequence for introducing the previous twenty pedaling techniques to students in a logical, systematic order.

Most of the pedagogical procedures described in the teaching units have seldom been subjected to research analysis. Therefore, some examination of them by expert piano teachers seemed desirable. The validation of the teaching units was accomplished using two types of validation: extensive and intensive.

#### Results of Extensive Validation

Sixty-three master piano teachers were randomly selected to participate in this phase of the validation process. They represented a cross-section of the 2,763 nationally certified MTNA teachers of piano and piano pedagogy. Of the sixty-three expert piano teachers who were sent the teaching materials, sixty-one responded and participated in the study, for a rate of 97 percent.

In order to achieve this response rate, the teachers were first sent an introductory letter explaining the purpose of the study (see Appendix A), along with a stamped, self-addressed post card to indicate their willingness to participate in the study. A follow-up

letter was sent to non-respondents and to those who did not return the material by the deadline. Telephone calls were also made to secure additional respondents.

The results of the extensive validation are comprised of a compilation of data from (1) the general questionnaire asking opinions about the overall value of the units, and (2) the questionnaire for each individual teaching unit (see Appendices B and C). The data were then collated and analyzed accordingly.

#### General Questionnaire

The questionnaire consisted of two parts. The first part sought to determine the average ages of students taught by the respondents. This information was secured to determine if there were differences in the teaching units among respondents who teach younger students, those who teach older ones, and those who teach students of all ages. The second part of the questionnaire obtained general comments from the respondents about the materials.

Average age of students. Forty of those who responded, or 66 percent, indicated that they teach students of all ages. Seventeen, or 28 percent, teach students in grades one through twelve, and 4, or 7 percent, teach only college students. With one exception, the same types of comments were received from teachers in each of the three age levels. Of those who taught younger students, 12, or

71 percent, requested the inclusion of easier teaching examples. In comparison, this suggestion was made by only 11, or 28 percent, of those who teach students of all ages, and by none of those who teach only college students.

General comments. Twenty-seven respondents, or 44 percent, did not comment directly on the questionnaire itself, but wrote overall comments about the units on the validation form they received for the various teaching units. Therefore, comments about the units were gathered from both the general questionnaire and the validation form for each unit.

Comments and suggestions pertaining to the individual teaching units are presented later in this chapter along with each unit. The remaining more general comments are grouped as follows. The number and percentage include only those respondents who provided overall comments.

Favorable. Fifty-seven respondents, or 93 percent expressed favorable overall comments regarding the teaching units they had seen. A number of comments were repeated frequently, however, only one example is cited from those with marked similarity to avoid repetition. They are included as one phase of the validation process.

Examples of these comments include: "impressive;" "meticulously organized and presented;" "fine paper;" "masterful;" "very complete;" "logical;" "well written;" "impressive clarity of description and sequencing of the

tasks;" "good pedagogy!" "very well done;" "excellent;" "enjoyable reading;" "very successful;" "most helpful;" "great!" "interesting;" "really fine;" "carefully thought out;" "brilliant!" "enjoyed;" "very exciting ideas!" "appreciated;" "thank you;" "very clear;" "excellent presentation;" "important;" "very good specifics;" "most informative;" "beautiful, beautiful paper;" "valuable teaching tools;" "well organized;" "explained very well;" "very clear and logical;" "well thought out and developed naturally;" "diagrams were perfect!" "very clear explanations;" "very well done;" "good description and orderly development of exercises;" "no suggestions--it sounds perfect to me;" "the objectives provide everything in perfect order;" "very well presented!" "very clearly and logically presented sequence;" "I approve;" "very concise, logical, and easy to understand;" "no suggestions--the presentation is excellent;" "good;" "very thorough research;" "musical examples and presentation of the material is excellent;" "a wonderful teaching idea;" "good luck!" "very clear and helpful;" "presentation is clear, logical, and complete!" "very understandable and easy to follow;" "you are addressing two important areas--pedaling and listening!" "certainly useful;" "presented in a logical way;" "impressed by the clarity of description and break-down and sequencing of the tasks--good pedagogy!" "much needed information;" "I liked the teaching units

very, very much;" "materials are of a superior quality--the explanations and suggestions are written in a clear, concise form [and are] easy to understand and follow;" "fantastic endeavor;" "thorough without being overly 'wordy';" "sequence and articulation of this material make it very clear to understand and to apply;" "information presented is most in depth and is written in a most comprehensive manner;" "fills a very definite need;" "very complete and informative--would be extremely useful to teachers and students alike;" "very interesting and useful material for teachers and advanced piano students;" "worthwhile project;" "materials show much careful consideration of this teaching problem;" "a lot of brain work;" "congratulations on an excellent pedagogical paper!" "fantastic!" "a labor of love;" "thrilled!" "never seen anything like it;" and "techniques are brilliantly presented!"

Several expressed the wish that they had received instruction in pedaling in their early pianistic training, or that more teachers recognize its importance. Examples include: "I wish that I had been taught with this kind of information and logical detail;" "I wish I had had this kind of training when I first started lessons;" "I've had thirteen piano teachers and not one taught me how to pedal!" "this provides a logical explanation--many teachers give no attention to pedaling at all;" "this inspires me to spend more time with students helping them achieve the best

pedaling for the music they are working on;" "I have never been taught [these pedaling techniques] before;" "no one has ever bothered to teach much about pedaling;" "I congratulate you on selecting topics which are often misunderstood or put on a back burner and not used any more than one has to."

Overall comments related to teaching the units include: "informative and provided immediate results when followed closely;" "logical and provides better playing;" "good--quick differences noted;" "the student had no problems with the techniques;" "very much interest shown after several practices, with a desire to perfect the technique;" "it was fun for my students--they liked the idea;" "very helpful--excellent exercises;" "excellent, typical musical examples in music commonly used with high school students;" "logical and enhances quality of performance;" "practical examples--easily used;" "examples are very well defined--the application and teaching techniques are good and workable;" and "I tried this material with two students--both reacted quite favorably and attained a better command of the technique in a shorter time than I would have thought possible."

A number of respondents telephoned to express appreciation for the materials and to ask permission to copy what they had received for their own use. Several asked

how they could purchase a copy of the completed work. A few expressed a desire to have a workshop or master class on the materials. Several others indicated that they felt privileged to have been included in the study.

Many respondents urged publication of the materials. A few examples are cited here: "This material must be compiled and sold to piano teachers and pianists everywhere;" "if you prepare a book it would be most helpful to teachers;" "show publishers of method books your work that they might incorporate your techniques into their series;" "this is the basis for a valuable article;" "would love to see the entire work--do you have plans for publishing it?" "hope that it will be published and that it will be readily available;" "would love to purchase a copy;" "concise, well written, and will be of great value to both teachers and students;" and "if you have any problems getting a publisher, let me know."

Less favorable. Four respondents, or 7 percent, expressed comments that were less favorable. These include: "a bit dry;" "I felt somewhat frustrated with the concepts even though I understood them and could see a need--it was a different viewpoint;" "the explanations are excellent for the teacher, but there are too many negatives to mention in a lesson;" and "I think the subject is not of enough substance to base your thesis on . . . [it] is given too much emphasis."



Questionnaire for Teaching Units 1 - 20

A specific form was provided for each of the twenty teaching units, and another form was provided for gathering comments on the pedagogical sequence unit.

The respondents were asked to review the teaching units and to critique them by examining the materials, by using them, and by conferences with students. The respondents were also asked to consider the units according to: (1) pedagogical materials, (2) objectives, (3) student application, (4) order of presentation in terms of the student's technical development, (5) pedagogical processes, (6) importance and previous use made of the pedaling technique, and (7) the ability of the teacher to implement the technique according to the teaching unit.

The following scale was used by the respondents in rating each of the first three categories:

- 5 - Excellent
- 4 - Very Good
- 3 - Good
- 2 - Fair
- 1 - Poor

An analysis of the materials, objectives, and student application follows for each teaching unit. The scores for each category were summed and divided by the number of respondents to provide a mean score for the category. The mean ratings of the various aspects of each category are presented in Table 1 for easier comparison.

Table 1  
Mean Ratings for the Aspects of Teaching Units

Category 1: Materials

	<u>Unit</u>	<u>Explanation</u>	<u>Application</u>	<u>Procedures</u>	<u>Examples</u>	<u>Exercises</u>
1.	<u>Legato pedaling</u>	<u>4.73</u>	<u>4.82</u>	<u>4.82</u>	<u>4.33</u>	<u>4.56</u>
2.	<u>Legatissimo</u>	<u>4.80</u>	<u>4.90</u>	<u>4.70</u>	<u>5.00</u>	<u>5.00</u>
3.	<u>Rhythmic pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>	<u>4.67</u>	<u>4.83</u>
4.	<u>Una corda pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>4.88</u>	<u>4.50</u>	<u>4.71</u>
5.	<u>Pre-pedaling</u>	<u>4.89</u>	<u>4.72</u>	<u>4.78</u>	<u>5.00</u>	<u>4.71</u>
6.	<u>Finger pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>	<u>4.93</u>	<u>5.00</u>
7.	<u>Staccato pedaling</u>	<u>4.88</u>	<u>4.63</u>	<u>4.71</u>	<u>4.57</u>	<u>4.60</u>
8.	<u>Portato pedaling</u>	<u>4.71</u>	<u>4.71</u>	<u>4.71</u>	<u>4.71</u>	<u>4.83</u>
9.	<u>Phrasing/artic.</u>	<u>4.86</u>	<u>4.86</u>	<u>5.00</u>	<u>4.86</u>	<u>5.00</u>
10.	<u>Melodic pedaling</u>	<u>4.50</u>	<u>4.75</u>	<u>4.63</u>	<u>4.75</u>	<u>4.86</u>
11.	<u>Half damping</u>	<u>4.79</u>	<u>4.75</u>	<u>4.75</u>	<u>4.58</u>	<u>4.75</u>
12.	<u>Pedal vibrato</u>	<u>4.86</u>	<u>4.83</u>	<u>4.67</u>	<u>4.83</u>	<u>4.83</u>
13.	<u>Pedal dimin.</u>	<u>5.00</u>	<u>4.88</u>	<u>4.88</u>	<u>4.75</u>	<u>5.00</u>
14.	<u>Half pedaling</u>	<u>4.88</u>	<u>4.88</u>	<u>4.88</u>	<u>5.00</u>	<u>4.85</u>
15.	<u>Flutter pedaling</u>	<u>5.00</u>	<u>4.83</u>	<u>4.83</u>	<u>4.83</u>	<u>5.00</u>
16.	<u>Dynamic pedaling</u>	<u>4.86</u>	<u>4.71</u>	<u>4.86</u>	<u>4.86</u>	<u>4.86</u>
17.	<u>Pedal blurring</u>	<u>4.90</u>	<u>4.80</u>	<u>4.80</u>	<u>4.60</u>	<u>5.00</u>
18.	<u>Harmonic pedaling</u>	<u>4.84</u>	<u>4.67</u>	<u>4.67</u>	<u>4.70</u>	<u>4.70</u>
19.	<u>Pedaling one hand</u>	<u>4.50</u>	<u>4.75</u>	<u>4.75</u>	<u>4.88</u>	<u>4.88</u>
20.	<u>Sostenuto pedaling</u>	<u>4.90</u>	<u>4.73</u>	<u>4.80</u>	<u>4.80</u>	<u>4.75</u>

Table 2  
Mean Ratings for the Aspects of Teaching Units

Category 2: Objectives

	<u>Unit</u>	<u>Useful</u>	<u>Logical</u>	<u>Clear</u>
1.	<u>Legato pedaling</u>	<u>4.82</u>	<u>4.64</u>	<u>4.80</u>
2.	<u>Legatissimo pedaling</u>	<u>4.90</u>	<u>5.00</u>	<u>4.90</u>
3.	<u>Rhythmic pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
4.	<u>Una corda pedaling</u>	<u>5.00</u>	<u>4.88</u>	<u>4.71</u>
5.	<u>Pre-pedaling</u>	<u>4.89</u>	<u>4.89</u>	<u>4.78</u>
6.	<u>Finger pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
7.	<u>Staccato pedaling</u>	<u>4.75</u>	<u>4.63</u>	<u>4.88</u>
8.	<u>Portato pedaling</u>	<u>4.79</u>	<u>4.43</u>	<u>4.43</u>
9.	<u>Phrasing/articulation</u>	<u>5.00</u>	<u>4.71</u>	<u>4.71</u>
10.	<u>Melodic pedaling</u>	<u>4.88</u>	<u>4.86</u>	<u>4.83</u>
11.	<u>Half damping</u>	<u>4.84</u>	<u>4.84</u>	<u>4.84</u>
12.	<u>Pedal vibrato</u>	<u>5.00</u>	<u>5.00</u>	<u>4.86</u>
13.	<u>Pedal diminuendo</u>	<u>5.00</u>	<u>5.00</u>	<u>4.86</u>
14.	<u>Half pedaling</u>	<u>5.00</u>	<u>4.88</u>	<u>4.38</u>
15.	<u>Flutter pedaling</u>	<u>5.00</u>	<u>4.83</u>	<u>5.00</u>
16.	<u>Dynamic pedaling</u>	<u>4.97</u>	<u>4.86</u>	<u>4.86</u>
17.	<u>Pedal blurring</u>	<u>5.00</u>	<u>5.00</u>	<u>4.90</u>
18.	<u>Harmonic pedaling</u>	<u>5.00</u>	<u>4.80</u>	<u>4.80</u>
19.	<u>Pedaling one hand</u>	<u>4.88</u>	<u>4.88</u>	<u>4.88</u>
20.	<u>Sostenuto pedaling</u>	<u>4.90</u>	<u>4.55</u>	<u>4.56</u>

Table 3  
Mean Ratings for the Aspects of Teaching Units

Category 3: Student Application

<u>Unit</u>	<u>Interest</u>	<u>Understanding</u>	<u>Beneficial</u>
1. <u>Legato pedaling</u>	<u>4.50</u>	<u>4.50</u>	<u>4.50</u>
2. <u>Legatissimo pedaling</u>	<u>4.50</u>	<u>4.50</u>	<u>4.50</u>
3. <u>Rhythmic pedaling</u>	<u>4.50</u>	<u>4.67</u>	<u>5.00</u>
4. <u>Una corda pedaling</u>	<u>4.75</u>	<u>4.75</u>	<u>4.88</u>
5. <u>Pre-pedaling</u>	<u>4.33</u>	<u>4.50</u>	<u>4.67</u>
6. <u>Finger pedaling</u>	<u>4.50</u>	<u>4.50</u>	<u>5.00</u>
7. <u>Staccato pedaling</u>	<u>4.40</u>	<u>4.30</u>	<u>4.40</u>
8. <u>Portato pedaling</u>	<u>4.50</u>	<u>4.50</u>	<u>4.50</u>
9. <u>Phrasing/articulation</u>	<u>4.50</u>	<u>4.50</u>	<u>4.50</u>
10. <u>Melodic pedaling</u>	<u>4.60</u>	<u>4.20</u>	<u>4.60</u>
11. <u>Half damping</u>	<u>5.00</u>	<u>4.33</u>	<u>4.33</u>
12. <u>Pedal vibrato</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
13. <u>Pedal diminuendo</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
14. <u>Half pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
15. <u>Flutter pedaling</u>	<u>4.50</u>	<u>4.50</u>	<u>4.50</u>
16. <u>Dynamic pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
17. <u>Pedal blurring</u>	<u>4.50</u>	<u>4.50</u>	<u>5.00</u>
18. <u>Harmonic pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
19. <u>Pedaling one hand</u>	<u>5.00</u>	<u>4.75</u>	<u>5.00</u>
20. <u>Sostenuto pedaling</u>	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>

The majority of teachers who responded did not try the materials with students. The reason most often given was that they were not teaching during the time the material was sent to them. Therefore, the data in Table 3 reflect only about a 40 percent response.

Table 4  
Combined Mean Ratings for the Aspects of Teaching Units

<u>Categories</u>	<u>Grand Mean Score</u>
I. Materials	
1. Explanation	<u>4.85</u>
2. Application	<u>4.81</u>
3. Procedures	<u>4.81</u>
4. Examples	<u>4.73</u>
5. Exercises	<u>4.84</u>
II. Objectives	
1. Useful	<u>4.93</u>
2. Logical	<u>4.83</u>
3. Clear	<u>4.80</u>
III. Student Application	
1. Interest	<u>4.63</u>
2. Understanding	<u>4.58</u>
3. Beneficial	<u>4.72</u>

Table 5  
Grand Mean Ratings for Individual Teaching Units

	<u>Unit</u>	<u>Materials</u>	<u>Objectives</u>	<u>Application</u>	<u>Overall Mean Rating</u>
1.	<u>Legato pedaling</u>	<u>4.65</u>	<u>4.75</u>	<u>4.50</u>	<u>4.63</u>
2.	<u>Lega- tissimo</u>	<u>4.88</u>	<u>4.93</u>	<u>4.50</u>	<u>4.77</u>
3.	<u>Rhythmic pedaling</u>	<u>4.90</u>	<u>5.00</u>	<u>4.72</u>	<u>4.87</u>
4.	<u>Una corda pedaling</u>	<u>4.82</u>	<u>4.86</u>	<u>4.79</u>	<u>4.82</u>
5.	<u>Pre- pedaling</u>	<u>4.82</u>	<u>4.85</u>	<u>4.50</u>	<u>4.72</u>
6.	<u>Finger pedaling</u>	<u>4.99</u>	<u>5.00</u>	<u>4.67</u>	<u>4.89</u>
7.	<u>Staccato pedaling</u>	<u>4.68</u>	<u>4.75</u>	<u>4.37</u>	<u>4.60</u>
8.	<u>Portato pedaling</u>	<u>4.73</u>	<u>4.55</u>	<u>4.50</u>	<u>4.59</u>
9.	<u>Phrasing/ artic.</u>	<u>4.92</u>	<u>4.81</u>	<u>4.50</u>	<u>4.74</u>
10.	<u>Melodic pedaling</u>	<u>4.70</u>	<u>4.86</u>	<u>4.47</u>	<u>4.68</u>
11.	<u>Half damping</u>	<u>4.72</u>	<u>4.84</u>	<u>4.55</u>	<u>4.70</u>
12.	<u>Pedal vibrato</u>	<u>4.80</u>	<u>4.95</u>	<u>5.00</u>	<u>4.92</u>
13.	<u>Pedal dimin.</u>	<u>4.90</u>	<u>4.95</u>	<u>5.00</u>	<u>4.95</u>
14.	<u>Half pedaling</u>	<u>4.90</u>	<u>4.75</u>	<u>5.00</u>	<u>4.88</u>
15.	<u>Flutter pedaling</u>	<u>4.90</u>	<u>4.94</u>	<u>5.00</u>	<u>4.95</u>
16.	<u>Dynamic pedaling</u>	<u>4.83</u>	<u>4.90</u>	<u>5.00</u>	<u>4.91</u>
17.	<u>Pedal blurring</u>	<u>4.82</u>	<u>4.97</u>	<u>4.92</u>	<u>4.90</u>
18.	<u>Harmonic pedaling</u>	<u>4.72</u>	<u>4.87</u>	<u>5.00</u>	<u>4.86</u>
19.	<u>Pedaling one hand</u>	<u>4.75</u>	<u>4.88</u>	<u>4.92</u>	<u>4.85</u>
20.	<u>Sostenuto pedaling</u>	<u>4.80</u>	<u>4.67</u>	<u>5.00</u>	<u>4.82</u>

Tables 6 - 10 indicate the general responses to teaching units 1 through 20. Not all respondents answered every question. The results are tabulated and expressed as percentages based upon the actual number of teachers who responded to each question. Out of the sixty-one possible responses, fifty-eight or more answered each item.

Table 6 reconfirms the importance and use of legato pedaling as the one pedaling technique used most frequently by the majority of piano teachers. It also shows that a majority of the piano teachers either had never used the pedaling technique they had been sent, or had made very little use of it.

It was not always easy to determine the exact extent, if any, to which the teacher was previously familiar with the technique. Several teachers indicated that they had sometimes used portions of a technique or had applied the technique in only a few of the suggested ways. For example, several indicated that they taught "rhythmic pedaling" but had applied the pedal only for accentuation or to project a waltz-type bass. At other times it was clear that the respondents were confusing terminology which may have produced an inappropriate response. For example, 60 percent indicated that they taught harmonic pedaling either quite often or to some extent. But an examination of their responses shows that they were only pedaling chords, which is more appropriately indicated as legato pedaling.

Table 6  
Previous Use of Pedaling Technique According to  
Percentage of Responses

	<u>Unit</u>	<u>None</u>	<u>Very Little</u>	<u>Some</u>	<u>Much</u>
1.	<u>Legato pedaling</u>	_____	_____	_____	<u>100</u>
2.	<u>Legatissimo</u>	<u>75</u>	<u>25</u>	_____	_____
3.	<u>Rhythmic pedaling</u>	<u>45</u>	<u>25</u>	<u>30</u>	_____
4.	<u>Una corda pedaling</u>	<u>25</u>	<u>25</u>	_____	<u>50</u>
5.	<u>Pre-pedaling</u>	<u>29</u>	<u>29</u>	<u>14</u>	<u>28</u>
6.	<u>Finger pedaling</u>	_____	_____	<u>17</u>	<u>83</u>
7.	<u>Staccato pedaling</u>	<u>17</u>	<u>33</u>	<u>33</u>	<u>17</u>
8.	<u>Portato pedaling</u>	_____	_____	<u>75</u>	<u>25</u>
9.	<u>Phrasing/artic.</u>	<u>50</u>	<u>50</u>	_____	_____
10.	<u>Melodic pedaling</u>	_____	<u>67</u>	_____	<u>33</u>
11.	<u>Half damping</u>	_____	<u>33</u>	<u>33</u>	<u>33</u>
12.	<u>Pedal vibrato</u>	<u>100</u>	_____	_____	_____
13.	<u>Pedal dimin.</u>	<u>33</u>	_____	<u>67</u>	_____
14.	<u>Half pedaling</u>	_____	_____	<u>50</u>	<u>50</u>
15.	<u>Flutter pedaling</u>	<u>67</u>	<u>33</u>	_____	_____
16.	<u>Dynamic pedaling</u>	_____	<u>50</u>	<u>25</u>	<u>25</u>
17.	<u>Pedal blurring</u>	_____	<u>100</u>	_____	_____
18.	<u>Harmonic pedaling</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>40</u>
19.	<u>Pedaling one hand</u>	<u>29</u>	<u>57</u>	<u>14</u>	_____
20.	<u>Sostenuto pedaling</u>	<u>17</u>	<u>50</u>	<u>33</u>	_____



Table 7  
Stage of Development at which a Particular Pedaling  
Technique Should be Introduced, According to  
Percentage of Responses

<u>Unit</u>	<u>Beginning</u>	<u>Elementary</u>	<u>Intermediate</u>	<u>Advanced</u>
1. <u>Legato pedaling</u>	43	57	—	—
2. <u>Lega- tissimo</u>	—	—	100	—
3. <u>Rhythmic pedaling</u>	—	—	100	—
4. <u>Una corda pedaling</u>	—	33	67	—
5. <u>Pre-pedaling</u>	—	33	67	—
6. <u>Finger pedaling</u>	33	33	33	—
7. <u>Staccato pedaling</u>	—	—	75	25
8. <u>Portato pedaling</u>	—	—	75	25
9. <u>Phrasing/ artic.</u>	—	—	80	20
10. <u>Melodic pedaling</u>	—	—	80	20
11. <u>Half damping</u>	—	—	—	100
12. <u>Pedal vibrato</u>	—	—	20	80
13. <u>Pedal dimin.</u>	—	—	—	100
14. <u>Half pedaling</u>	—	—	20	80
15. <u>Flutter pedaling</u>	—	—	50	50
16. <u>Dynamic pedaling</u>	—	—	50	50
17. <u>Pedal blurring</u>	—	—	—	100
18. <u>Harmonic pedaling</u>	20	60	—	20
19. <u>Pedaling one hand</u>	—	—	17	83
20. <u>Sostenuto pedaling</u>	—	—	20	80

Many of the responses received regarding the most appropriate stage for teaching a technique were too vague to be recorded accurately on this chart. Table 7 presents the results as best as they can be determined. Many teachers gave a generic response or answered in a very general way. Some examples include: "when the music calls for it - why introduce any sooner?" "as it is needed;" "little by little;" "when playing original Chopin;" "when playing 'real literature';" "before needed in the repertoire;" and "when the student can do the prerequisites."

The responses in this table also indirectly confirmed the sequential order of introducing the pedaling techniques presented in teaching unit 21. Therefore, the results of Table 7 further supported the findings of those who validated the pedagogical sequence unit.

Table 8 indicates an overwhelming majority of the respondents believed that it is very important to teach the pedaling techniques that they had been sent. Yet, a comparison of Table 8 with Table 6 indicates that the majority of the teachers either had never or had seldom used these techniques previously in their teaching! This finding provides further confirmation of the need for instructional materials on pedaling. As one respondent replied: "Your project has clearly shown me, as I'm sure it will others, that there is not enough instructional material on pedal technique."

Table 8  
Importance of Teaching Individual Pedaling Techniques  
According to Percentage of Responses

	<u>Unit</u>	<u>Not Very</u>	<u>Somewhat</u>	<u>Very</u>
1.	<u>Legato pedaling</u>	_____	_____	<u>100</u>
2.	<u>Legatissimo pedaling</u>	_____	<u>25</u>	<u>75</u>
3.	<u>Rhythmic pedaling</u>	_____	_____	<u>100</u>
4.	<u>Una corda pedaling</u>	_____	_____	<u>100</u>
5.	<u>Pre-pedaling</u>	_____	<u>22</u>	<u>78</u>
6.	<u>Finger pedaling</u>	_____	_____	<u>100</u>
7.	<u>Staccato pedaling</u>	_____	_____	<u>100</u>
8.	<u>Portato pedaling</u>	_____	<u>20</u>	<u>80</u>
9.	<u>Phrasing/articulation</u>	_____	_____	<u>100</u>
10.	<u>Melodic pedaling</u>	_____	_____	<u>100</u>
11.	<u>Half damping</u>	_____	_____	<u>100</u>
12.	<u>Pedal vibrato</u>	<u>17</u>	<u>50</u>	<u>33</u>
13.	<u>Pedal diminuendo</u>	<u>17</u>	_____	<u>83</u>
14.	<u>Half pedaling</u>	_____	_____	<u>100</u>
15.	<u>Flutter pedaling</u>	_____	<u>67</u>	<u>33</u>
16.	<u>Dynamic pedaling</u>	_____	<u>20</u>	<u>80</u>
17.	<u>Pedal blurring</u>	_____	<u>20</u>	<u>80</u>
18.	<u>Harmonic pedaling</u>	_____	<u>20</u>	<u>80</u>
19.	<u>Pedaling one hand</u>	_____	_____	<u>100</u>
20.	<u>Sostenuto pedaling</u>	_____	<u>17</u>	<u>83</u>

Table 9  
Agreement with Concepts in Teaching Units According to  
Percentage of Responses

	<u>Unit</u>	<u>No</u>	<u>Yes</u>
1.	<u>Legato</u> <u>pedaling</u>	_____	<u>100</u>
2.	<u>Legatissimo</u> <u>pedaling</u>	_____	<u>100</u>
3.	<u>Rhythmic</u> <u>pedaling</u>	_____	<u>100</u>
4.	<u>Una corda</u> <u>pedaling</u>	_____	<u>100</u>
5.	<u>Pre-</u> <u>pedaling</u>	_____	<u>100</u>
6.	<u>Finger</u> <u>pedaling</u>	_____	<u>100</u>
7.	<u>Staccato</u> <u>pedaling</u>	_____	<u>100</u>
8.	<u>Portato</u> <u>pedaling</u>	_____	<u>100</u>
9.	<u>Phrasing/</u> <u>articulation</u>	_____	<u>100</u>
10.	<u>Melodic</u> <u>pedaling</u>	_____	<u>100</u>
11.	<u>Half</u> <u>damping</u>	_____	<u>100</u>
12.	<u>Pedal</u> <u>vibrato</u>	_____	<u>100</u>
13.	<u>Pedal</u> <u>diminuendo</u>	_____	<u>100</u>
14.	<u>Half</u> <u>pedaling</u>	_____	<u>100</u>
15.	<u>Flutter</u> <u>pedaling</u>	_____	<u>100</u>
16.	<u>Dynamic</u> <u>pedaling</u>	_____	<u>100</u>
17.	<u>Pedal</u> <u>blurring</u>	_____	<u>100</u>
18.	<u>Harmonic</u> <u>pedaling</u>	_____	<u>100</u>
19.	<u>Pedaling</u> <u>one hand</u>	_____	<u>100</u>
20.	<u>Sostenuto</u> <u>pedaling</u>	_____	<u>100</u>

The results of Table 9 indicate strong agreement with the concepts in the units.

Although the majority of teachers had not used the pedaling techniques before, Table 10 indicates that they overwhelmingly would feel comfortable in teaching the pedaling techniques with the information provided in the teaching units and transferring its use to other examples. Some responses include: "transfer should be easy;" "yes, I am anxious to start;" "yes, very;" "yes, although I would have to practice [the technique] myself!" and "I would feel comfortable teaching it as soon as I can develop some expertise myself."

Other affirmative indications include "yes" because: "the techniques are explained precisely and I recognize the difference pedaling makes;" "it provides a logical explanation;" "this technique is well presented;" "the presentation is very clear;" "having this detailed procedure in print is excellent;" "concepts are well explained and would be easy to use on other material;" "this information might be the tool with which a student might excel in his expression of his art;" "it really works--you have explained it very well;" "it is easily grasped and usable in many [instances];" "good pedaling is a combination of knowledge and skill, [therefore] I would not hesitate to teach this technique as explained in this material;" "it teaches the way I do;" "I like the way you have presented this;" "the

Table 10  
Ability to Teach Pedaling Techniques Using Information  
Provided in Teaching Units According to  
Percentage of Responses

<u>Unit</u>	<u>No</u>	<u>Yes</u>
1. <u>Legato</u> <u>pedaling</u>	_____	<u>100</u>
2. <u>Legatissimo</u> <u>pedaling</u>	_____	<u>100</u>
3. <u>Rhythmic</u> <u>pedaling</u>	_____	<u>100</u>
4. <u>Una corda</u> <u>pedaling</u>	_____	<u>100</u>
5. <u>Pre-</u> <u>pedaling</u>	_____	<u>100</u>
6. <u>Finger</u> <u>pedaling</u>	_____	<u>100</u>
7. <u>Staccato</u> <u>pedaling</u>	_____	<u>100</u>
8. <u>Portato</u> <u>pedaling</u>	_____	<u>100</u>
9. <u>Phrasing/</u> <u>articulation</u>	_____	<u>100</u>
10. <u>Melodic</u> <u>pedaling</u>	_____	<u>100</u>
11. <u>Half</u> <u>damping</u>	_____	<u>100</u>
12. <u>Pedal</u> <u>vibrato</u>	_____	<u>100</u>
13. <u>Pedal</u> <u>diminuendo</u>	_____	<u>100</u>
14. <u>Half</u> <u>pedaling</u>	_____	<u>100</u>
15. <u>Flutter</u> <u>pedaling</u>	_____	<u>100</u>
16. <u>Dynamic</u> <u>pedaling</u>	_____	<u>100</u>
17. <u>Pedal</u> <u>blurring</u>	_____	<u>100</u>
18. <u>Harmonic</u> <u>pedaling</u>	_____	<u>100</u>
19. <u>Pedaling</u> <u>one hand</u>	_____	<u>100</u>
20. <u>Sostenuto</u> <u>pedaling</u>	_____	<u>100</u>

important parts are stressed and are applicable to other examples. . . . I like three points: 1) usually less is better than more, 2) teach by negative example, and 3) the most important element is the ear;" "this is a good way to help train the ear;" "it tells me what I need to know;" "it's good material;" "the teaching procedures were very helpful and would provide the student with excellent exercises to do when practicing;" "it is simple to do and rewarding musically to the student and other listeners;" "orderly sequencing and presentation of the materials helps secure optimum results."

#### Validation of Pedagogical Sequence of Piano Pedaling Techniques

The twenty-first teaching unit was also critiqued a total of six times. Since this unit presented a pedagogical sequence for implementing the twenty pedaling techniques rather than the teaching of a particular pedaling technique, a slightly different format was used in seeking the validation of this unit (see Appendix D). The results of the questionnaire are tabulated for each question as follows:

1. Do you agree with the views on the sequence of presentation of pedaling techniques?

All six of the respondents agreed with the sequence of presentation. No one offered changes or suggestions.

2. Do the suggestions on the sequence seem logical?

All six answered "yes" to this question.

3. In your opinion, how important is it to teach pedaling concepts in a systematic order?

The respondents were asked to indicate their response to this question by checking one of five choices:

"very important," "quite important," "somewhat important," "slightly important," and "not important." Five of the six respondents, or 83 percent answered that it is "very important" to teach pedaling concepts in a systematic order. The sixth respondent felt that it is "quite important."

4. Do you agree with the skills mentioned as being prerequisite to pedaling techniques, and should others be either added to or deleted from this list?

All six respondents answered "yes," they did agree with the list of prerequisite skills and that the list is complete as it is presented.

5. Do you have any comments or suggestions regarding the teaching or implementation of these techniques?

No suggestions were offered, and only positive comments were received. One respondent wrote: "I think there is a definite need for information such as this, since so many teachers have never really tried to identify and explain the various techniques."



### Results of Intensive Validation

The twenty teaching units were grouped into four major categories: (1) Category One: full pedaling which includes legato pedaling, legatissimo pedaling, pre-pedaling, and pedaling one hand and not the other; (2) Category Two: partial pedaling which includes half-damping, pedal vibrato, pedal diminuendo, flutter pedaling, and half pedaling; (3) Category Three: pedaling to enhance rhythm, dynamics, and phrasing which includes rhythmic pedaling, staccato pedaling, portato pedaling, finger pedaling, melodic pedaling, pedaling to enhance phrasing and articulation, and pedaling for dynamic effects; (4) Category Four: use of two or more pedals simultaneously which includes una corda pedaling, sostenuto pedaling, pedaling for color and special effects, and harmonic pedaling.

One or two teaching units were chosen as a representative sample from each major category, and four nationally certified piano teachers were selected to teach at least one unit each from the category they were given. The teachers then selected between one to three students who were at the appropriate stage to learn one of the pedaling techniques. The four teachers collectively taught five teaching units to a total of eleven different students.

The portion of the lesson in which the chosen pedaling technique was taught was recorded. The portion of the

lesson a week later in which the student demonstrated his or her accomplishment in pedaling after two hours of practice was also recorded. These recordings were then analyzed by the researcher and a panel of four MTNA nationally certified teachers. One adjudicator, however, tended to rate the teachers on their general teaching rather than on their application of the material in the units. Therefore, it was deemed advisable to omit the ratings of that particular adjudicator, even though they were generally very favorable.

Prior to listening to the tapes, the researcher met with the adjudicators for a training session. General procedures for listening to the tapes, completing the forms, and assigning ratings were reviewed. The adjudicators also examined the teaching units that they would be hearing on tape. In this way they could study the materials in advance and have an opportunity to ask questions.

#### Categories of Tapes

The tapes that were analyzed consisted of representative teaching units from each category:

#### Category

#### Teaching Unit

I - Full pedaling

19 - Pedaling one  
hand and not the  
other

II - Partial pedaling	13 - Pedal <u>diminuendo</u>
	15 - Flutter pedaling
III - Pedaling for rhythmic/ dynamic effects and phrasing	7 - <u>Staccato</u> pedaling
IV - Use of two or more pedals simultaneously	20 - <u>Sostenuto</u> pedaling

### Analysis of Tapes

The analysis of the taped lessons is divided into three parts: antecedent conditions, transactions, and outcomes. Expectations are set forth for each of these three categories. The antecedent stage involves the basic skills and conditions that should be present in order for the student to learn the pedaling technique. The transactions part involves the presentation of the materials by the teacher. The outcomes stage is concerned with the application of the technique by the student. Conclusions were drawn based upon a comparison of the amount of congruency between the observations and expectations during each of the three stages.

The figure on the following page illustrates the basic format that was used for this portion of the validation process.

	Expectations	Observations	Conclusions
Antecedents	- Prerequisite Skills and Conditions for Student -		
Transactions	- Presentation of Materials by the Teacher -		
Outcomes	- Application by the Student - - Overall Effectiveness of Teaching Unit -		

Figure 5-1  
Model for Analysis of Tapes

Expectations. In the antecedent stage, the following expectations are set forth: (1) the student does not know the particular pedaling technique, (2) the student is at the appropriate level to learn the technique, (3) the student is willing to practice and learn, (4) the student possesses the basic prerequisite skills to learning the technique, and (5) before coming to the second lesson the student will practice the technique for a minimum of two hours.

Transactions. The transactions stage concerns the presentation of the material by the teacher. At this stage the teacher should: (1) review the correct positioning of the body and feet on the pedals, (2) follow the steps outlined in the teaching unit, using the examples provided, and (3) at the second lesson review the main concepts presented during the previous week's lesson.

Outcomes. The outcomes stage involves the achievement of the technique by the student. It determines if the student: (1) has a clear understanding of the pedaling technique, and (2) after having practiced the technique demonstrates that he or she has learned it.

The tapes were subjected to analysis by a committee to determine whether the following criteria were met: (1) The requisite conditions necessary for learning the technique were met by the student, (2) the teacher followed the suggestions in the teaching unit and was clear in doing so, and (3) the student did in fact learn the pedaling technique as demonstrated at his or her lesson the following week.

#### Observations of Tapes

The observations made by the committee were recorded on a separate form (see Appendix E). The results of the observations are tabled and presented on the following page:

Table 11  
Analysis of Mean Ratings of Observations of Tapes

0 = No  
1 = Yes

<u>Categories</u>	<u>Tapes</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
I. Antecedents (Student)						
1. Cooperation		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
2. Adequate skills		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
3. Practice		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
II. Transactions (Teacher)						
1. Clear explanations		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
2. Followed procedures		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
3. Used examples		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
4. Clear expectations		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
III. Outcomes (Student)						
1. Learned technique		<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>

### Conclusions

A separate form was used to record the conclusions (see Appendix F). Conclusions were drawn based upon a comparison of the observations of the tape recorded lessons with the expectations for the antecedent conditions, the transactions, and the outcomes. The panel of adjudicators

determined how well the conditions were met at each stage, and how successfully each stage was accomplished.

The following scale was used to record the conclusions:

- 5 = Excellent
- 4 = Very Good
- 3 = Good
- 2 = Fair
- 1 = Poor

Table 12  
Analysis of Mean Ratings of Conclusions of Tapes

<u>Categories</u>	<u>Tapes</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
I. Antecedents: Prerequisite skills						
1. Were met by the student		<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
II. Transactions: Teacher presentation						
1. Followed procedure		<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
2. Explanations/expectations made clear		<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
III. Outcomes: Student application						
1. Learned technique		<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>

The panel of adjudicators determined the overall success and effectiveness of each of the six teaching units based upon an analysis of the tapes they had heard and the materials they had seen. Their combined mean scores are

given, based upon the same five-point scale previously used in tabulating the mean observations of the tapes.

Table 13  
Overall Grand Mean Ratings of Tapes

<u>Tapes:</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>

#### General Comments

The panel of adjudicators was asked to provide additional comments derived from their observations of the tapes that were pertinent to the study. One adjudicator wrote: "The five units we heard were very well worked up. These would be extremely valuable for teacher-learning refresher workshops."

The following comments were received for each of the five pedaling techniques:

Pedaling one hand. "Excellent, clear teaching and understanding by teacher and student;" "taught well--excellent!" "well taught segment--instructions clear and followed well by teacher and student. Results--very good!" and "material uses an excellent example."

Pedal diminuendo. "The teacher has been very thorough with four students--very evidently the learning took;" and "very thorough."



Flutter pedaling. "Excellent explanations--good results;" "teacher used example student was already working on--this aided student in that she could concentrate on pedal and did not have to learn the music;" "teacher adapted flutter pedal to student's level--student responded, showing she grasped the idea of partial pedaling running passage;" and "excellent use of material by teacher."

Staccato pedaling. "Very successful--good teaching and again, a very valuable teaching tool;" "excellent!" and "used an example that was different from one provided but was similar and very good. Very good unit--well explained--responsive student."

Sostenuto pedaling. "Excellent teaching--projection remains at a high energy level, testing response of the student as the lesson developed. Student showed she had learned much from practice at home;" "excellent understanding--practice beyond what was required;" "very thorough teaching;" and "well formulated explanations, teacher very thorough, highly motivated student."

In addition to the written comments, the panel unanimously expressed a strong appreciation for the value of the materials as teaching tools for both teachers and students. They encouraged publication of the materials and presentations at workshops and conventions.

### Conclusions

During the course of this study, several existing conditions became increasingly apparent: (1) Little has been written of a scholarly nature about piano pedaling techniques, (2) even less has been written about the teaching of piano pedaling, (3) little or no research has been conducted on either of the above, and (4) no systematic, comprehensive study exists on the teaching of piano pedaling techniques.

Conclusions regarding the main thrust of the study can be drawn in terms of three criteria. The materials and concepts presented within the study should be: (1) systematic, (2) thorough, and (3) appropriate for the piano teachers who might use the materials.

### Systematic

The study meets this criterion. Each of the twenty units dealing with a pedaling technique follows a logical format that includes: (1) a description of the technique, (2) application of the technique, (3) teaching procedures, (4) examples, and (5) appropriate exercises. The musical examples in each unit are included as exemplars of the possible use of the technique, as something teachers can consider when they teach their students the correct use of the pedals.

In addition, the sequencing of the units was also systematically determined by the researcher. The units were grouped into logical categories and presented in a sequence in which one skill becomes a foundation for the next skill to be learned.

### Thorough

The study also meets this criterion. It presents twenty units on different pedaling techniques. Banowetz in his treatise on pedaling mentions only sixteen. Therefore, it is fair to say that the study is thorough in its coverage of pedaling techniques.

In terms of its pedagogical materials, there is no similar yardstick against which to compare the study, because so little has been written on the teaching of pedaling. Pedagogical recommendations are contained in each unit. It is possible, of course, that additional pedagogical ideas could have been presented, but the ones that are included appear more than adequate for the particular technique. In addition, one unit is included on the sequencing of the teaching units, which adds to the pedagogical thoroughness of the study.

### Appropriate for Intended Users

The determination of appropriateness was the purpose of the validation process, which solicited the opinions of MTNA certified teachers and analyzed the teaching of the

units in actual piano lessons. The results of both aspects of the validation process were overwhelmingly positive. As the responses to the questionnaire about each of the units indicate, the teachers had highly favorable opinions of the work. The few suggestions that were received tended to deal with points that were beyond the scope of this study. For example, a few respondents made recommendations that were more appropriate for a method book on pedaling for piano students. While that may be a subsequent development resulting from this study, the systematic study of the teaching of pedaling is a necessary antecedent step. As was previously indicated, a number of respondents did, in fact, encourage the publication of the materials, and several asked how they could purchase or acquire a copy of the completed teaching units. A large percentage asked permission to keep the materials that had been sent to them.

At each stage of the study, the apparent need for this type of research was reinforced. Not only did the respondents express appreciation for the materials they received, in their comments they also reflected their awareness of the lack of pedagogical materials on pedaling. The high consistency of the ratings gave further evidence that the concepts and techniques are pedagogically sound.

Because each piano teacher did not review every pedaling technique, it was not possible to determine from

this study how many techniques each teacher was familiar with or had used previously in his or her teaching. Nor was it the purpose of this study to uncover this information. However, a number of piano teachers did indicate that they were unaware of the many techniques for the use of the three pedals. Several teachers either had not used all three pedals in their teaching, or they were not familiar with the pedaling technique they had been given.

The audio tapes of the teaching of the units also produced favorable results. The students learned when they followed the procedures. Several teachers expressed surprise at how quickly and efficaciously the students were able to learn and apply the concepts. In both the opinion of the teachers who examined the teaching units and the results obtained from application in actual instruction, the study meets the criterion of being appropriate for its intended use.

#### Recommendations and Application

Due to the lack of systematic studies on the teaching of piano pedaling, the present study can provide the basis of future research into this area. The pedagogical concepts described in each teaching unit provide points for departure for other researchers who are interested in teaching this topic.

For those who may wish to pursue further research in teaching piano pedaling, the following areas are a logical extension to the current limitations of the present study:

1. Make the pedagogical procedures more specific to the age and/or musical development of the student.

2. Adjust the format of the units so that the materials more closely resemble a piano method book on pedaling.

3. Compile more musical examples for teachers who might wish a compendium of potential musical works for teaching pedaling.

4. For those who may wish to conduct further observations and use of the materials, it is suggested that videotaping the students' learning rather than audio taping may provide more information. This will allow the observation of posture, foot placement on the pedals, activation of the pedals, and additional extraneous variables that may hinder or help the student to learn the pedaling technique.

5. Conduct follow-up studies of an ethnographic or qualitative nature to determine how artistic pedaling is acquired through the use of these materials. Such a study would provide a close examination of the efficacy of the materials developed within the present study for teaching.

6. Conduct an ethnographic study of piano teachers to determine how pedaling is currently being taught, and com-

pile the methods that are being used. The study could also examine the manner in which pedaling concepts are integrated in the sequence of instructional materials.

The researcher would suggest to others who may wish to replicate portions of the validation process that more emphasis be placed on teaching the materials. A separate form could be provided for the actual teaching of the units. More respondents could be asked specifically to teach the materials in addition to those who respond to the questionnaire.

Additional teachers could be acquired to study the pedagogical sequence and could examine the grouping of the units into the various categories as well. Several respondents indicated that they would like to see more of the units and would like to know where the technique they had examined fit into the teaching sequence. It may also be beneficial to have several teachers teach all of the units to one or two students in the suggested order to further validate the pedagogical sequence.

The results of the present study indicate a need for piano teachers to read more about pedaling and to keep current in this developing field (many teachers were not even aware of the various types of pedaling). The responses also indicate a need for teachers to reflect upon how they teach pedaling, and to modify their teaching of pedaling concepts and techniques to incorporate more than

just basic elementary skills. A need exists for teachers not only to be aware of the various pedaling techniques, but also to possess the ability to demonstrate them competently to their students.

The need for organized and sequential pedagogical materials on the teaching of piano pedaling became readily apparent during the course of this study. A method book on the teaching of pedaling should be developed, along with a series of instructional books on pedaling for students. In this way, the materials and concepts that have been presented and validated within this study can become more easily accessible to the majority of piano teachers and students who strive to pedal in a more artistic manner.



APPENDIX A  
COVER LETTER

Dear Colleague:

I am conducting research on the subject of piano pedaling. As part of my study I would like to include an evaluation from a small, select sample of nationally certified MTNA teachers of piano and piano pedagogy regarding the teaching of various piano pedaling techniques. Because I am also a nationally certified member of MTNA, I recognize the high standards that achieving this level of certification represents.

I am also aware of the demands placed on your time. Therefore, I have devised a response form that should take only a few minutes to complete. It involves your looking over some materials and examples for the teaching of two pedaling techniques, and completing a brief form for each based on your own expertise.

Would you please indicate your willingness to participate in this study by returning the enclosed stamped, self-addressed postcard by return mail. The materials will be sent to you upon receipt of your postcard.

Thank you in advance for your time and cooperation.

Sincerely,

Mary Ray Johnson  
Assistant Professor of Music  
Chair of Keyboard Area  
(Phone number enclosed)

APPENDIX B  
QUESTIONNAIRE FOR TEACHERS

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

What ages of students do you teach? \_\_\_\_\_

Evaluation can be made on the basis of such evidence as examination of the materials, use of the materials, observations, and conferences with students. The following scale may be used in rating each of the items on the enclosed evaluation forms.

- 5 = Excellent
- 4 = Very Good
- 3 = Good
- 2 = Fair
- 1 = Poor

Please be sure to return this form along with your evaluations. Thank you very much.

- - - - -

Do you have any questions or general comments regarding the materials you have seen?

APPENDIX C  
VALIDATION FORM FOR TEACHING UNITS

Pedaling Technique Being Evaluated

---

Based on your experience, how would you evaluate the following:

I. Materials

- ( ) 1. Explanation of pedaling technique
- ( ) 2. Application and use of technique
- ( ) 3. Pedagogical procedures and suggestions
- ( ) 4. Musical examples cited
- ( ) 5. Suggested exercises

Comments or suggestions:

II. Objectives - To what extent do the materials appear to provide:

- ( ) 1. Useful information
- ( ) 2. Logical, sequential presentation
- ( ) 3. Clear, articulate explanations

Comments or suggestions:

III. Student Application - Please answer this section only if you have tried the enclosed material with one or more of your students:

- ( ) 1. Did students seem interested in technique as demonstrated by general attitude and eagerness to learn?
- ( ) 2. Did students appear to understand the application and use of technique?
- ( ) 3. Did technique appear to be beneficial to students as perceived in increased knowledge, musical understanding, and performance?

Comments or suggestions:

#### IV. General Response and Evaluation

- 1. Have you previously used this technique in your teaching?
- 2. If so, how much use have you made of it?
- 3. In your opinion, how important is it that your students learn this technique?
- 4. At what stage of development in playing the piano do you think this particular technique should be introduced?
- 5. How important do you think it is to teach this particular technique?
  - ( ) Very important
  - ( ) Somewhat important
  - ( ) Not very important

6. Do you agree with the:

A. Concepts presented?

B. Pedagogical sequencing and procedures?

C. Application of the technique?

If not, please describe any points of disagreement.

7. With the information provided, would you feel comfortable in teaching this technique and applying its use to other examples? Why or why not?

8. What general comments or suggestions do you have regarding either the musical examples provided or presentation of the material?

APPENDIX D  
VALIDATION FORM FOR PEDAGOGICAL SEQUENCE

1. Do you agree with the views on the sequence of presentation of pedaling techniques?

Yes \_\_\_\_\_ No \_\_\_\_\_

If not, what changes or suggestions would you recommend?

2. Do the suggestions on the sequence seem logical?

Yes \_\_\_\_\_ No \_\_\_\_\_

3. In your opinion, how important is it to teach pedaling concepts in a systematic order?

- ( ) Very important  
( ) Quite important  
( ) Somewhat important  
( ) Slightly important  
( ) Not important

4. Do you agree with the skills mentioned as being prerequisite to pedaling techniques?

Yes \_\_\_\_\_ No \_\_\_\_\_

5. In your opinion, should other skills be either added to or deleted from the list of prerequisites?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, which ones?

6. Do you have any comments or suggestions regarding the teaching or implementation of these techniques?

APPENDIX E  
ANALYSIS OF TAPES: OBSERVATIONS

<u>Category</u>	<u>No</u>	<u>Yes</u>	<u>Cannot be determined</u>
I. <u>Antecedent Conditions</u> (Expected of student)			
1. Cooperation	_____	_____	_____
2. Adequate skills	_____	_____	_____
3. Practice	_____	_____	_____
II. <u>Transactions</u> (Presentation of materials by teacher)			
1. Uses clear explanations	_____	_____	_____
2. Follows suggested procedures	_____	_____	_____
3. Uses examples provided	_____	_____	_____
4. Makes clear expectations	_____	_____	_____
III. <u>Outcomes</u> (Application by student)			
1. Learned technique	_____	_____	_____



APPENDIX F  
ANALYSIS OF TAPES: CONCLUSIONS

You are asked to draw conclusions based upon a comparison of your observations with the expectations for each of the three basic categories: antecedents, transactions, and outcomes. Determine how well the conditions were met at each stage and how successfully each stage was accomplished. Please use the following scale to record your conclusions:

- 5 = Excellent
- 4 = Very Good
- 3 = Good
- 2 = Fair
- 1 = Poor

<u>Categories</u>	<u>Ratings</u>
I. <u>Antecedents</u> Prerequisite skills	
1. Prerequisite conditions were met by student	_____
II. <u>Transactions</u> Teacher presentation	
1. Followed recommended procedure	_____
2. Explanations/expectations were clear	_____
III. <u>Outcomes</u> Student application	
1. How well had student learned the technique	_____

IV. Summary

1. How would you rate the overall success of this teaching unit based upon your analysis of the tapes you have heard and the materials you have seen.
- 

2. Additional comments:

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## BIOGRAPHICAL SKETCH

Mary Ray Johnson was born in Galveston, Texas, on November 18, 1944. When she was a year old the family moved to Gainesville, Florida, where her father had accepted a professorship at the University of Florida.

Ms. Johnson was educated in the public schools of Gainesville and studied piano with Mrs. Bernice Hack. During her school years she received many honors and awards for piano performance, including top place winner of the Florida State Music Teachers Association competition.

Upon graduation from Gainesville High School she was offered full tuition scholarships to three schools: Fontbonne College in St. Louis, the University of North Carolina, and the Eastman School of Music of the University of Rochester. Dr. William S. Newman extended an offer from the University of North Carolina for her to be one of ten women students admitted for the first time, and to receive the first out-of-state tuition scholarship ever to have been offered.

In 1967 Ms. Johnson received a Bachelor of Music degree with Distinction from the Eastman School of Music, with a major in piano. She was awarded a two-year teaching

assistantship in piano and theory. In 1969 she received the Master of Music degree in performance and literature from Eastman. She has received additional training in piano pedagogy, piano literature, musicology and music education at Brigham Young University.

Ms. Johnson received a number of awards during her years at Eastman: in 1965 the Alumni Association granted her an award for excellence; she was on the Dean's list each year of attendance; and she was recognized for achieving the highest scholastic average of graduating members of Sigma Theta chapter of Sigma Alpha Iota. While at Eastman she studied piano with Cecile Staub Genhart for six years.

In 1969 Ms. Johnson accepted a one-year position as assistant professor of music at Winthrop College in Rock Hill, South Carolina. In 1970 she was offered a position at Weber State College in Ogden, Utah, where she is currently employed as director of keyboard studies. In addition to private and class piano, Ms. Johnson has taught courses in keyboard pedagogy, keyboard literature, piano ensemble, accompanying, music theory and sight-singing, introduction to music, and music essentials. She also developed a series of pedagogical courses for music teachers.

Ms. Johnson performs frequently as soloist and accompanist, presents workshops and lecture recitals, and

adjudicates extensively throughout the intermountain area. She has performed as pianist and harpsichordist for the Weber State faculty trio and is head carillonneur for the Stewart Bell Tower. In addition, she created a state-wide piano festival which is held annually at Weber.


In 1986 Ms. Johnson took a sabbatical leave to begin doctoral studies at the University of Florida where she studied piano with Boaz Sharon. She received a graduate assistantship in piano during 1986-87, and was awarded the Edith Pitts Piano Scholarship from 1986 to 1988. While at the University she performed with the University Symphony Orchestra. She was an adjunct professor of music at Santa Fe Community College in Gainesville during 1987-88, and taught private and class piano and humanities while pursuing her doctoral degree.

Ms. Johnson is affiliated with many professional organizations: Kappa Delta Pi; Pi Kappa Lambda; Sigma Alpha Iota; American Association of University Professors; American Association of University Women; Utah Music Teachers Association, Florida State Music Teachers Association, Gainesville Music Teachers Association; Music Educators National Conference; Utah Music Educators Association; and Florida Music Educators Association. She is a nationally certified member of the Music Teachers National Association and has held various positions in this organization including state certification committee member, state chair-

man of collegiate artists auditions, and cochairman of the South-East Division auditions.

Ms. Johnson has appeared on several television and radio programs and has performed a number of times with various orchestras. She is listed in the International Directory of Distinguished Leadership, the Directory of International Biography, and the World Who's Who of Musicians.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
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Charles R. Hoffer, Chair  
Professor of Music

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William D. Hedges  
Professor of Educational Leadership


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Linda L. Lamme  
Professor of Instruction and Curriculum

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Russell L. Robinson  
Associate Professor of Music

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Boaz Sharon  
Professor of Music

This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December, 1989

  
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